CHAPTER 7
TRANSPORTATION AND CIRCULATION

7.0 TRANSPORTATION AND CIRCULATION

7.1 ENVIRONMENTAL SETTING

The evaluation of the operating characteristics of the existing circulation system in the vicinity of the proposed project is the initial task in defining the transportation impacts of the proposed project. The following sections briefly discuss existing roadway functions, traffic volumes, and traffic levels of service, as well as transit services and bicycle facilities.

7.1.1 Study Area Roadways

The study area for this traffic impact analysis is shown in Figure 7-1. The study focuses on the primary access roadways to the project, which includes Sierra College Boulevard, SR 193, Clark Tunnel Road, English Colony Way, King Road, Taylor Road, and I-80.

The Circulation Plan Diagram in the Countywide General Plan depicts the circulation system for unincorporated Placer County by means of a set of roadway classifications. The roadway classification system has been developed to guide Placer County's long range planning and programming. Roadways are classified in this system based on the linkages they provide and their function, both of which reflect their importance to the land use pattern, traveler, and general welfare. The County's functional classification system recognizes differences in roadway function and standards between urban/suburban areas and rural areas.

The roadway classifications are as follows:

- **Local streets** provide direct access to abutting land, and access to the collector street system. The public uses these streets for local circulation. They carry little, if any, through traffic, and generally carry very low traffic volumes.

- **Collector roadways** are intended to "collect" traffic from local streets and carry it to roadways higher in the street classification hierarchy (e.g., arterials). The public uses these roadways as secondary circulation routes, and they generally carry light to moderate traffic volumes. Access to abutting land is normally permitted, but may be restricted to certain uses dependant upon future traffic volumes. In urban/suburban areas, major collector roadways will generally carry higher traffic volumes than minor collectors and thus require more right-of-way and have more access restriction.

- **Arterial roadways** are fed by local and collector roadways and provide linkages to the State highway system as well as linkages to and between communities and major activity centers. The public uses these roadways as primary circulation routes for through traffic, and they carry higher volumes of traffic than local streets and collector roadways. In urban/suburban areas, major arterials will generally carry higher traffic volumes than minor arterials and thus require more right-of-way and have more access restrictions. Rural arterial roadways may or may not carry high traffic volumes, but do provide primary access routes for through travel in rural areas of the County.

The existing street network in the vicinity of the proposed project consists of state highways, arterial, collectors and local roadways. The key roadways shown in Figure 7-1 are described below.

SR 193 is an east-west state highway that links the City of Lincoln with Newcastle. This two-lane highway provides access from the project site to SR 65 to the west and I-80 to the east. Project access to SR 193 would be provided by Sierra College Boulevard. SR 193 carries approximately 6,500 vehicles daily west of Sierra College Boulevard and 5,000 vehicles daily east of Sierra College Boulevard.

Interstate 80 (I-80) is a transcontinental highway that links Placer County not only to Sacramento and the Bay Area, but to the rest of the United States via its crossing of the Sierras. Project access to I-80 is provided by Sierra College Boulevard. This freeway has six lanes through South Placer County and carries about 87,000 daily vehicles west of Sierra College Boulevard and 84,000 daily vehicles east of Sierra College Boulevard.

Sierra College Boulevard is a north-south arterial that provides direct access to the project site. This roadway connects the project area to Loomis, Rocklin and Sacramento to the south, as well as Lincoln (via SR 193) to the north. From Loomis' northerly town limits to SR 193, Sierra College Boulevard is classified as a rural arterial. In that section, Sierra College Boulevard is a two-lane roadway with a 55 mph speed limit that carries between 4,900 and 5,800 vehicles per day.

English Colony Way is a two-lane east-west rural collector roadway immediately south of the project site, and connects Sierra College Boulevard and Taylor Road. At the railroad underpass at its western end, English Colony Way is only one lane wide. English Colony Way currently carries about 900 vehicles per day east of Sierra College Boulevard, and about 2,500 vehicles per day between Clark Tunnel Road and Taylor Road.

Clark Tunnel Road is a north-south rural collector roadway that traverses the project site and connects English Colony Way to SR 193. This dirt and gravel roadway has some sections with steep grades and sharp curves. This two-lane roadway carries about 240 vehicles per day between Callison Road and English Colony Way. Through the project site, Clark Tunnel Road carries less than 100 vehicles per day.

King Road is a 2-lane roadway in Loomis that connects Sierra College Boulevard to Taylor Road. Between I-80 and Auburn-Folsom Road, King Road is classified as a rural arterial. It carries about 1,900 vehicles per day east of Sierra College Boulevard.

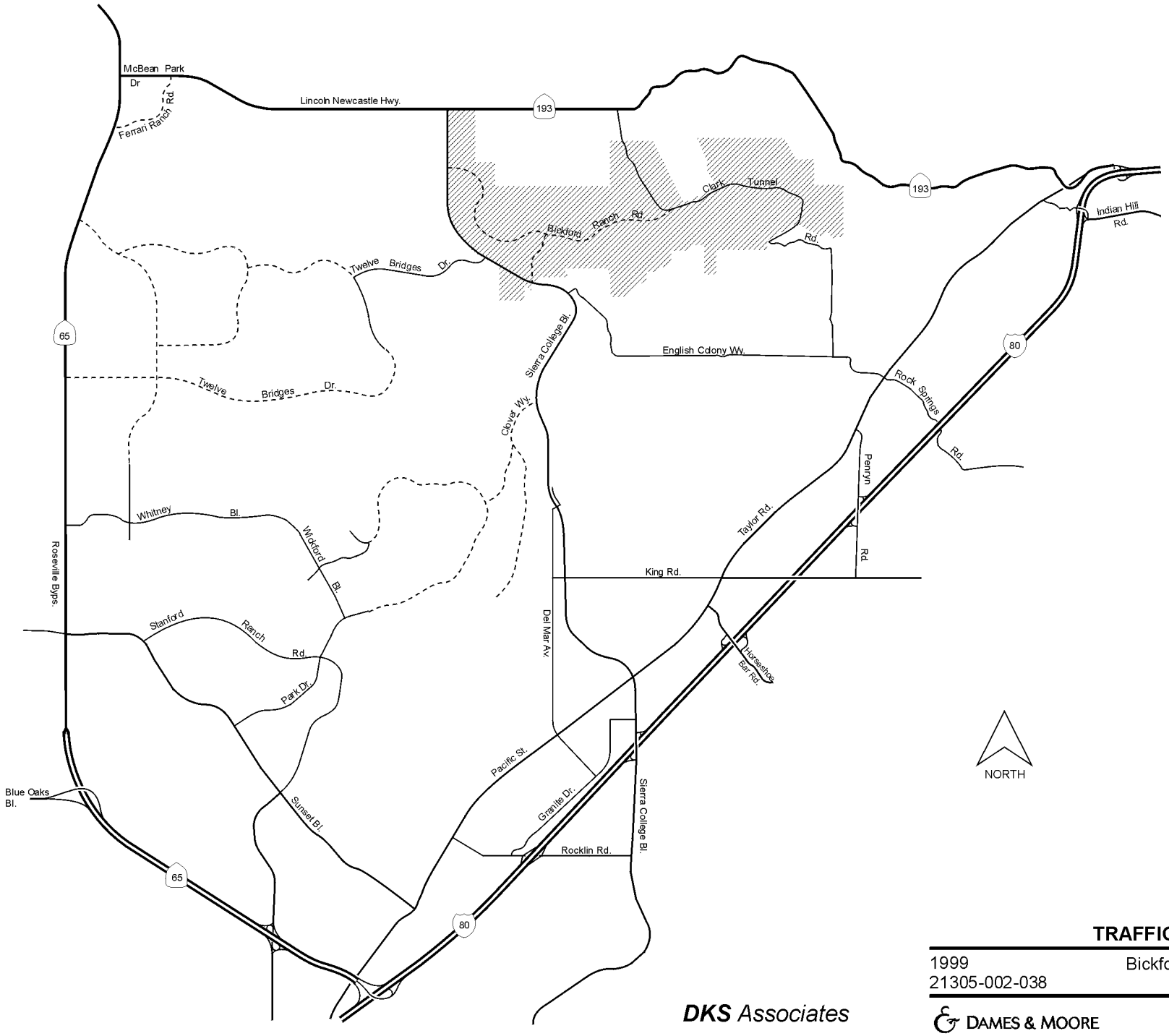
Taylor Road is an arterial roadway that parallels I-80 and connects Rocklin and Loomis with Newcastle. Near Sierra College Boulevard, this two-lane roadway carries about 10,000 vehicles per day. In Rocklin, Taylor Road becomes **Pacific Street**, which carries about 8,000 vehicles per day near Sierra College Boulevard.

7.1.2 Existing Traffic Levels of Service

Determination of traffic impacts of the proposed project is based upon projected roadway volumes and comparisons to roadway capacities. Roadway operating conditions are described using the concept of "levels of service."

Level of service (LOS) is a qualitative measure of the effect of a number of factors which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operation costs. Levels of service are designated "A" through "F" from the best to worst, which cover the entire range of traffic operations that might occur. Level of service "E" describes conditions approaching or at maximum capacity.

Under the Placer County General Plan, the County has set a standard of LOS "C" except for within one-half mile of state highways, where the standard is LOS "D." Two types of level of service analysis were



TRAFFIC IMPACT STUDY AREA

1999
21305-002-038

Bickford Ranch Specific Plan EIR
Placer County, California

DKS Associates

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FIGURE 7-1

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conducted: peak hour intersection analysis and daily segment-based level of service analysis. Tables 7-1 through 7-3 summarize the level of service criteria used for these analyses. The criteria for the segment-based analysis is consistent with the methodologies used in the Placer County General Plan EIR. Collector roadways were evaluated using the criteria for "low access control arterials."

Table 7-1
Level of Service Definitions
Signalized Intersections

LOS	V/C	Description
A	0.00-0.60	**Free Flow / Insignificant Delays:** No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.
B	0.61-0.70	**Stable Operation / Minimal Delays:** An occasional approach phase is fully utilized. Many drivers begin to feel somewhat restricted.
C	0.71-0.80	**Stable Operation / Acceptable Delays:** Major approach phases fully utilized. Most drivers feel somewhat restricted.
D	0.81-0.90	**Approaching Unstable / Tolerable Delays:** Drivers may have to wait through more than one red signal indication. Queues may develop but dissipate rapidly, without excessive delays.
E	0.91-1.00	**Unstable Operation / Significant Delays:** Volumes at or near capacity. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
F	>1.00	**Forced Flow / Excessive Delays:** Represents jammed conditions. Intersection operates below capacity with low volumes. Queues may block upstream intersections.

Sources: Circular 212, Transportation Research Board, 1981.

Table 7-2
Level of Service Definitions
Unsignalized Intersections

Level of Service (LOS)	Average Delay per Vehicle (sec/vehicle)
A	0 to 5.0
B	5.1 to 10.0
C	10.1 to 20.0
D	20.1 to 30.0
E	30.1 to 45.0
F	> 45.0

Source: Highway Capacity Manual, Transportation Research Board, 1994.

Table 7-3
Level of Service Definitions
Daily Segment Based Analysis

Roadway Capacity Class	Maximum Daily Traffic Volume Per Lane for Each Level of Service Designation				
	A	B	C	D	E
1) Arterial – Moderate Access Control	5,400	6,300	7,200	8,100	9,000
2) Arterial and Collector – Low Access Control	4,500	5,250	6,000	6,870	7,500

Source: Placer County General Plan Update, Countywide General Plan, Draft Environmental Impact Report, Crawford, Multari & Starr et al., 1994b, based upon Highway Capacity Manual, Transportation Research Board, 1985.

Table 7-4 summarizes 1998 peak hour intersection conditions at study intersections while Table 7-5 contains the daily segment-based analysis for existing conditions. The existing traffic volumes and geometrics at each intersection in Table 7-4 are provided in Appendix C. Currently only one intersection within the study area operates at conditions worse than LOS "C": Sierra College at the I-80 Eastbound (EB) ramps, which operates at LOS "D" conditions during the afternoon peak hour. Likewise, the daily segment-based level of service analysis indicates that the only section of roadway in the study area that currently operates at level of service worst than LOS "C" conditions is the section of Sierra College between Granite Drive and I-80 which operates at LOS "D" conditions. The current operation of this section of Sierra College Boulevard meets the County's level of service policy since it is within one-half mile of a state highway.

7.1.3 Existing Transit Service

Local transit service in Placer County is currently provided by local governments and social service agencies. Most of the services are oriented towards senior citizens, students, disabled persons and other transit dependents. Fixed-route service providers in South Placer County include Placer County Transit, Lincoln Transit, Roseville Fixed Route and Roseville Commuter Service. Placer County Transit operates a fixed route between Lincoln and the Sierra College campus south of I-80. This route operates three times daily and runs along Sierra College Boulevard adjacent to the project site. However, this route may be re-routed to operate along SR 65 based on a Short-Range Transit Plan. Placer County Transit also provides "deviated route" transit services along I-80 and Taylor Road. This service extends about three quarters of a mile from these roadways and thus does not serve the vicinity of the proposed project.

The area around the project site is also not served by "dial-a-ride" transit services. Consolidated Transportation Services Agency, an independent provider of demand responsive transportation services to the elderly and disabled, provide services in the SR 49 corridor, but they do not serve the area near the project site.

7.1.4 Existing Bicycle Facilities

Bicycle facilities in Placer County are classified as follows:

Class I: Off-street bike trails or paths which are physically separated from streets or roads used by motorized vehicles.

Table 7-4
Existing Levels of Service at Study Intersections

Intersection		Traffic Control Type	AM			PM		
			LOS	LOS Criteria		LOS	LOS Criteria	
				Signalized Intersection (V/C Ratio)	Unsignalized Intersection (Delay)[1]		Signalized Intersection (V/C Ratio)	Unsignalized Intersection (Delay)[1]
SR 193	SR 65	Signal	A	0.51		A	0.58	
SR 193	Sierra College – overall	Stop	A		2.1 sec	A		3.1 sec
	NB Approach		*B*		*7.3* sec	*B*		*6.8* sec
	WB Left		*B*		*6.6* sec	*A*		*3.1* sec
SR 193	Clark Tunnel Road – overall	Stop	A		0.0 sec	A		0.0 sec
	NB Approach		*A*		*0.0* sec	*A*		*0.0* sec
	WB Left		*A*		*0.0* sec	*A*		*0.0* sec
Sierra College	Twelve Bridges Dr. – overall	Stop	A		0.2 sec	A		0.4 sec
	NB Left		*A*		*3.2* sec	*A*		*2.6* sec
	EB Approach		*A*		*4.0* sec	*A*		*4.3* sec
Sierra College	English Colony Wy. – overall	Stop	A		0.2 sec	A		0.2 sec
	SB Left		*A*		*2.5* sec	*A*		*3.0* sec
	WB Approach		*A*		*4.4* sec	*A*		*4.9* sec
Sierra College	Clover Valley Road	Stop	A		0.0 sec	A		0.0 sec
Sierra College	Del Mar Avenue – overall	Stop	A		0.8 sec	A		0.6 sec
	NB Left		*A*		*3.2* sec	*N/A*[2]		*N/A*[2]
	SB Left		*N/A*[2]		*N/A*[2].	*A*		*3.0* sec
	EB Approach		*B*		*6.9* sec	*B*		*6.6* sec
	WB Approach		*B*		*7.3* sec	*B*		*6.6* sec
Sierra College	King Road – overall	Stop	A		0.9 sec	A		1.2 sec
	NB Left		*A*		*2.8* sec	*A*		*2.6* sec
	SB Left		*A*		*2.6* sec	*A*		*3.1* sec
	EB Approach		*B*		*5.2* sec	*B*		*7.4* sec
	WB Approach		*A*		*4.8* sec	*A*		*5.0* sec
Sierra College	Taylor Road	Signal	A	0.44		A	0.49	
Sierra College	Granite Drive	Signal	A	0.47		B	0.68	
Sierra College	I-80 WB Ramps	Signal	C	0.75		C/D	0.80	
Sierra College	I-80 EB Ramps	Signal	C	0.76		D	0.88	
English Colony Wy.	Clark Tunnel Road – overall	Stop	A		0.6 sec	A		0.5 sec
	SB Approach		*A*		*4.6* sec	*A*		*4.4* sec
	EB Left		*A*		*2.4* sec	*A*		*2.5* sec
English Colony Wy.	Taylor Road – overall	4-way Stop	B		6.4 sec	D		24.6 sec
	NB Approach		A		3.0 sec	C		13.8 sec
	SB Approach		A		3.1 sec	A		1.8 sec
	EB Approach		C		16.1 sec	F		111.4 sec
	WB Approach		A		2.4 sec	A		1.8 sec

Notes: [1] Overall LOS at stop-sign controlled intersections represent weighted average of all approaches.
[2] No vehicles were observed making this movement during the a.m. or p.m. peak hours.

Source: DKS Associates, 1999.

Class II: On-street bike lanes with signs, striped lane markings and pavement legends.

Class III: On-street bike routes marked by signs and shared with motor vehicles and pedestrians. Optional four-inch edge lines painted on the pavement.

Placer County prepared a Bikeway Master Plan in 1988. There is a limited bikeway system in the vicinity of the proposed project. That plan designates Sierra College Boulevard with Class II bike lanes. Sierra College Boulevard currently has eight-foot shoulders on each side of the roadway. These shoulders allow Sierra College Boulevard to be classified as a Class II bikeway. Portions of King Road also have Class II bike lanes. The 1988 Bikeway Master Plan is in the process of being updated. Class II bike lanes have recently been completed on Taylor Road between Newcastle and Loomis.

Several other roadways near the proposed project site are identified in the Bikeway Master Plan with Class III bikeways. These include English Colony Way, SR 193 and Taylor Road.

Table 7-5
Roadway Segment Levels of Service
Existing Conditions

Roadway	Segment	No. of Lanes	ADT	LOS
Sierra College Blvd.	SR 193 to Twelve Bridges	2	4,880	A
	Twelve Bridges to Bickford Ranch Rd	2	5,600	A
	Bickford Ranch Rd to English Colony	2	5,600	A
	English Colony to King Road	2	5,780	A
	King Road to Taylor Road	2	6,100	A
	Taylor Road to Granite Dr	2	10,200	A
	Granite Dr to I-80	2	14,770	D
SR 193	SR 65 to Lincoln City Limits	2	6,700	A
	Lincoln City Limits to Sierra College	2	6,500	A
	Sierra College to Clark Tunnel Rd	2	5,000	A
	Clark Tunnel Rd to Newcastle	2	4,400	A
I-80	West of Sierra College Blvd	6	87,000	D
	East of SR 193	6	80,000	D
Lower Ranch Rd.	East of Sierra College Blvd	2	-	
Bickford Ranch Rd.	East of Sierra College Blvd	2	-	
Clark Tunnel Rd.	SR 193 to Callison Rd	2	50	A
	Callison Rd To English Colony Way	2	240	A
English Colony Way	Sierra College to Clark Tunnel Rd	2	870	A
	Clark Tunnel Rd to Taylor	2	2,530	A

Note:
ADT = average daily traffic
Source: DKS Associates, 1999.

7.2 REGULATORY SETTING

A number of County standards apply to the evaluation of transportation impacts of the proposed project. These standards cover the primary aspects of the transportation system (operations and design) and should be adhered to by the project. These standards include:

Level of Service (LOS) Standard

Under the Placer County General Plan, the County has set a standard of LOS "C" or better for its roadway system. Consequently, LOS "A," "B," and "C" are considered acceptable, while "D," "E" and "F" are unacceptable. Within one-half mile of a state highway, LOS "D" will be considered acceptable. State highway facilities that are included in the County's roadway system have a LOS "E" standard; this includes SR 65, SR 193 and I-80.

Placer County Improvement Standards

Roadway improvements within Placer County must conform to a set of standard plans that detail County standards for pavement width, lighting, drainage, sewer, and other roadside facilities. Roadway facilities associated with the proposed project must meet or exceed these standards, unless these standards are superseded by the Development Standards adopted for the project by ordinance in conjunction with the approval of the Specific Plan.

Capital Improvement Program (CIP)

The CIP defines roadway improvements that are needed to meet the County's LOS standards over a 20-year period. This program should be updated a minimum of every five years or with the approval of a significant level of development.

Bikeway Master Plan

The Placer County General Plan calls for the development of a comprehensive bikeway system that would provide connections between the major urban areas of the County, with linkages to bikeway systems in other jurisdictions. The County developed a Bikeway Master Plan in 1988 to provide guidelines for the development of a County-wide network of bicycle facilities and design standards (based on Caltrans standards) for new bicycle facilities.

Truck Routes

Placer County has not developed a system of truck routes for the unincorporated county. Trucks are prohibited from using specific bridges and roadways. However, trucks are not prohibited on any roadways or bridges near the project site.

Project Consistency with the Placer County General Plan

Placer County's General Plan contains policies governing development within Placer County. The policies relating to transportation and circulation are identified in the General Plan Consistency discussion in Section 7.3.

7.3 IMPACTS

This section identifies and discusses the environmental impacts resulting from the proposed project, and suggests mitigation measures to reduce the level of impact. A detailed discussion of mitigation measures is included in Section 7.4.

CEQA Guidelines states that a project will normally have a significant effect on the environment if it will cause a substantial increase in traffic in relation to the existing traffic load and capacity of the street system. For this analysis, roadway levels of service will be used as the basis for determining significant impacts. Placer County uses an LOS "C" standard for county roadways, except for those county roadways within one-half mile of a state highway, where LOS "D" is permissible. State highway level of service is governed by the Placer County Congestion Management Program standards. The roadway segments and intersections in the study area are under the jurisdiction of Placer County, the Town of Loomis and the cities of Lincoln and Rocklin. This analysis uses an LOS "C" standard for study area locations except within one-half mile of state highways where an LOS "D" standard is used. This standard is consistent with the County's policies and the other jurisdictions in the study area.

An exception to this level of service standard is made for stop-sign controlled intersections that would not have high enough traffic volumes to warrant a traffic signal. At these locations, when a low volume stop-sign controlled approach operates at level of service "D" or worse conditions and there is no reasonable mitigation measure to improve the operations on that approach, then the impact is not considered significant.

Potential significant impacts associated with traffic impacts have been evaluated using the following criteria:

- The project would cause roadway or intersection operations to deteriorate to levels below LOS standard C (or LOS D within one-half mile of state highways);
- On a two-lane rural roadway that has no shoulders, and/or limited sight distance, the project would cause traffic volumes to exceed the County's recommended volume threshold for safety improvements;
- Planned transit services do not meet the additional transit demand generated by the project, which includes helping the County meet its level of service standard, transportation systems management standards and air quality goals; and
- Planned bicycle facilities do not provide adequate capacity for the additional bicycle trips generated by the project, and the policies and guidelines of the Bikeway Master Plan.

7.3.1 Methodology

Transportation system needs and impacts are based on the travel demand model which was originally developed by DKS Associates in 1993 for Placer County. The model translates land uses into transit patronage and roadway volume projections. Its inputs are estimates of development (i.e., the number of single-family and multi-family dwelling units, and the amount of square footage of various categories of non-residential uses) and descriptions of the roadway and transit systems. The model covers not only the portions of Placer County west of Colfax, but also the entire Sacramento region and is consistent with the regional model currently used by Placer County Transportation Planning Agency to prepare the Placer County Regional Transportation Plan. The model also maintains a general consistency with the trip distribution and mode choice estimates from the regional model used by the Sacramento Area Council of Governments (SACOG).

To determine the traffic impacts of the proposed project, the traffic associated with full development of the proposed project was superimposed upon the following three "base" (i.e., no project) scenarios:

- Existing Conditions - existing traffic volumes (based on recent traffic count data).
- 2010 General Plan Conditions - projected traffic volumes based on 2010 development levels assumed in the Placer County General Plan EIR (but excluding development on the project site).
- Buildout of Project Vicinity Scenario - projected traffic volumes based on adding full buildout of both the Clover Valley Lakes and Twelve Bridges developments to the 2010 development levels assumed in the Placer County General Plan EIR (but excluding development on the project site).

Comparing traffic conditions with and without full development of the proposed project under these three scenarios provides a comprehensive basis for determining the traffic impacts of the proposed project. While the circulation system within the project site is discussed, the traffic analysis focuses on the proposed project's impacts on the roadway system outside the project site.

To evaluate project impacts, two types of roadway level of service analyses were conducted. A roadway segment analysis based on average daily traffic volumes and capacities was conducted following the same methodology used in the Placer County General Plan EIR. In addition, an intersection level of service analysis was performed for a.m. and p.m. peak hour traffic conditions. This analysis covered the major intersections in the vicinity of the proposed project, as shown in Figure 7-2. To conduct the intersection analysis, a peak hour component was added to Placer County's existing daily travel model to provide a.m. and p.m. peak hour traffic forecasts. The daily trip tables by trip purpose were factored using peak hour factors from SACOG's regional travel demand model.

Traffic impacts of the proposed project, based on the travel demand model, are discussed in the following sections. Detailed traffic data and analyses are presented in a separate report entitled Technical Appendix – Capacity Analysis Summaries (DKS Associates, 1999).

7.3.2 Project Trip Generation

Table 7-6 summarizes the trip generation of the proposed project. The trip generation rates for The Ridge and The Meadows residential communities reflect rates for typical single-family dwelling units in the Institute of Transportation Engineers (ITE) Trip Generation Sixth Edition. The trip generation rates for Heritage Ridge, an age-restricted residential community, is based on recent traffic count data at the Del Webb-Sun City project in Roseville that was collected by the City of Roseville.

Trip generation for commercial development is typically based on trips per 1,000 square feet of gross floor area. To estimate the trip generation of the Village Center retail development, a floor-area-ratio of 25 percent was assumed. This FAR represents 10,890 square feet per acre. Thus about 80,000 square feet of retail space was assumed on the proposed 7.3-acre Village Center.

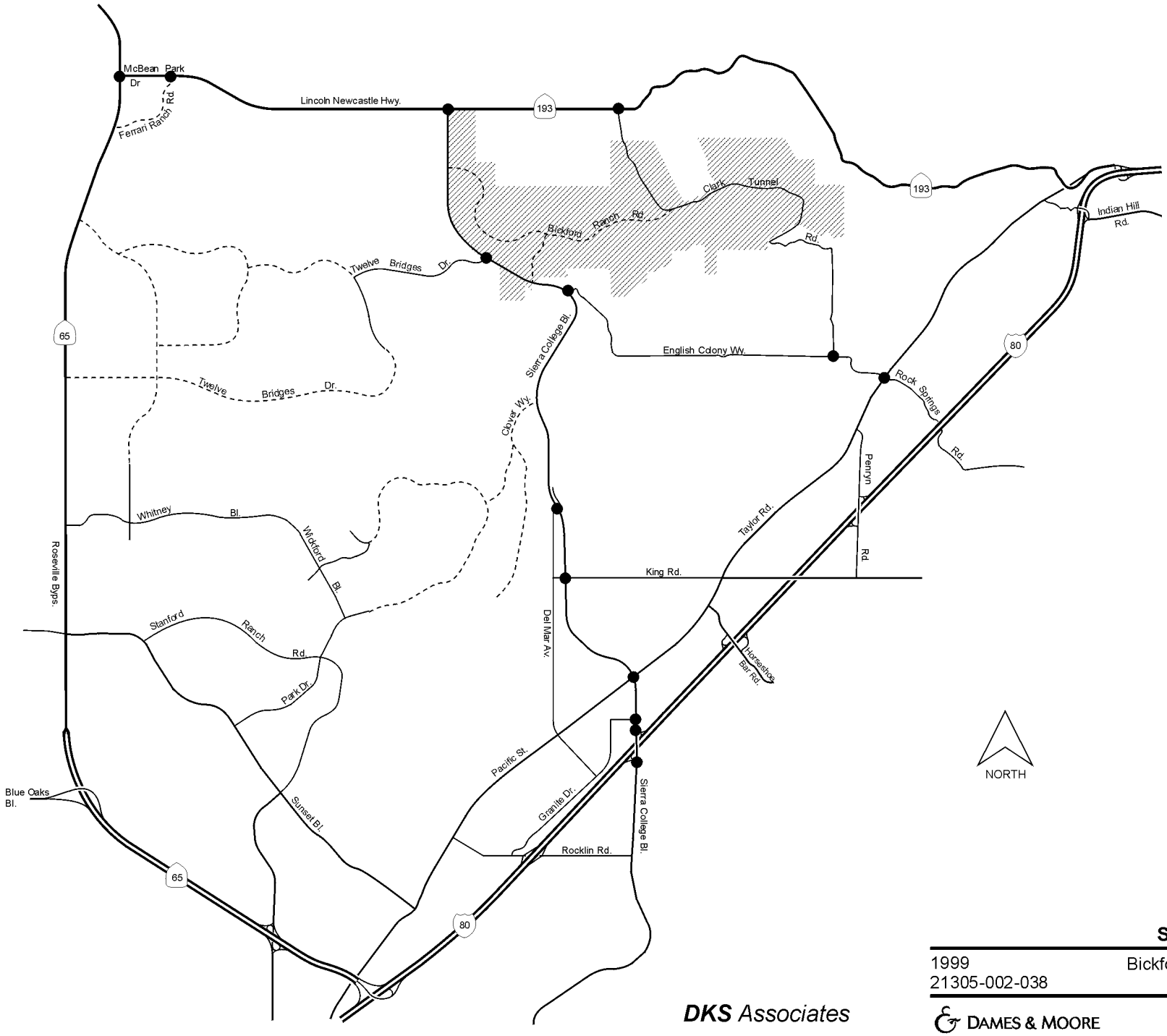
A portion of the traffic generated by the various land uses in the proposed project would remain within the project site. It was estimated that about 26 percent of the daily residential trips generated by the proposed project would travel to the Village Center retail uses. This represents about 55% of the daily trips generated by the Village Center remaining internal to the proposed project. The percent of internal trips traveling between the residential and retail portions of the proposed project would vary during peak commute hours (see Table 7-6).

The residential trip generation rates for the Heritage Ridge community already include the impact of the golf course, driving range and clubhouse/recreation center (since similar facilities are included in the Del Webb development). Most of the trips traveling to these uses would be from the residences within the project site.

Table 7-6
Estimated Trip Generation
Proposed Bickford Ranch Project

Land Use	Units	Daily		A.M. Peak Hour				P.M. Peak Hour			
				In		Out		In		Out	
		Trips per Unit	Trips	Trips per Unit	Trips	Trips per Unit	Trips	Trips per Unit	Trips	Trips per Unit	Trips
Residential: - The Ridge	909 DU	9.57	8,699	0.19	173	0.56	509	0.64	582	0.36	327
- The Meadows	94 DU	9.57	900	0.19	18	0.56	53	0.64	60	0.36	34
- Heritage Ridge	947 DU	3.68	3,485	014	134	0.13	123	0.13	122	0.14	136
Subtotal	1,950 DU		13,084		325		685		764		497
% Internal Trips			26%		12%		9%		27%		41%
Internal Trips			3,411		38		65		203		203
External Trips			9,673		287		620		561		295
Commercial Village Center	7.3 Acre	855	6,242	12.70	93	7.46	54	40.00	292	40.00	292
% Internal Trips			55%		70%		70%		70%		70%
Internal Trips			3,411		65		38		203		203
External Trips			2,831		28		17		89		89
Total External Trips			**12,503**		**315**		**637**		**650**		**384**

Note: Internal trips represents trips that remain within the proposed project site.
Source: DKS Associates, 1999.



DKS *Associates*

STUDY INTERSECTIONS

1999 Bickford Ranch Specific Plan EIR
21305-002-038 Placer County, California

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FIGURE 7-2

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The proposed project would generate about 16,000 daily vehicle trips on an average weekday (note that daily internal trip "ends" are not double counted). About 12,500 of these daily trips would travel outside the project site.

7.3.3 Trip Distribution and Assignment

The Placer County travel demand model was used to estimate the distribution of trips that leave the project site. The distribution of the project traffic differs depending on the assumed level of development in South Placer County and the rest of the Sacramento metropolitan area. The 2010 General Plan conditions include more job and shopping opportunities in surrounding communities (i.e., Rocklin and Lincoln) than Existing Plus Project conditions. This additional development would attract a share of the project's trips and result in a different distribution of project traffic. Likewise, the Buildout of Project Vicinity conditions include more job and shopping opportunities in the Twelve Bridges development than the 2010 General Plan conditions, and would result in a higher percentage of project traffic attracted to the City of Lincoln. For these reasons the County's travel model was used to estimate a different distribution of project traffic for the three development scenarios that were evaluated in this EIR (existing plus project conditions, 2010 General Plan conditions, and Buildout of Project Vicinity scenario). The project distribution varies due to differences in job and shopping opportunities in Rocklin, Lincoln, Roseville, etc. in 2010 versus the existing condition. The distribution of traffic from the proposed project under each of these scenarios is shown in Table 7-7.

Table 7-7
External Project Trip Distribution

Direction of Travel	Existing Conditions	2010 General Plan	Buildout of Project Vicinity[1]
I-80 – West of Sierra College Blvd.	40%	28%	26%
South of I-80	11%	7%	6%
Auburn / I-80 East	10%	6%	5%
Rocklin	9%	17%	17%
Loomis / Penryn	13%	11%	10%
Lincoln / SR 65	17%	31%	36%
Total	**100%**	**100%**	**100%**

Notes:
[1] With buildout of the Twelve Bridges Specific Plan and the Clover Valley Lakes development
Source: DKS Associates, 1999

7.3.4 Planned Transportation Improvements

For the purposes of this traffic analysis the following improvements to the transportation system were assumed under existing and 2010 conditions:

Existing Conditions Roadway Improvements

The analysis of the "existing plus project" scenario assumed the following roadway network improvements:

- The internal roadways to the proposed project would be fully implemented.

- The intersection of Sierra College Boulevard and Bickford Ranch Road would be signalized, while Sierra College Boulevard and Lower Ranch Road would be a one-way stop-sign controlled intersection.

Roadway Improvements Under 2010 General Plan and Buildout of Project Vicinity Scenarios

The analysis of the "no project" conditions under the 2010 General Plan scenario and under Buildout of Project Vicinity scenario (i.e., with buildout of the Twelve Bridges and Clover Valley Lakes) assumed that the 2010 improvements contained in the Placer County General Plan EIR would be fully implemented. These improvements, shown in Figure 7-3, include the following:

- Sierra College Boulevard would be widened to four lanes from SR 193 to Granite Drive, and to six lanes from Granite Drive to I-80.
- Sierra College Boulevard/I-80 interchange would be reconstructed.
- SR 193 would be widened to four lanes from Sierra College Boulevard to Ferrari Ranch Road.
- SR 65 would be widened to four lanes from Blue Oaks Boulevard to Industrial Boulevard (in the City of Lincoln).
- Pacific Street would be widened to four lanes from Sierra College Boulevard to Rocklin Road.

It was also assumed that Taylor Road would be widened to four lanes near its intersection with Sierra College Boulevard. These scenarios also assume that the internal roadway systems in the Twelve Bridges Specific Plan and the Clover Valley Lakes project would be implemented.

A planning level signal warrant analysis was conducted for the "no project" conditions under the 2010 General Plan scenario to define the locations where traffic signals should be assumed. This analysis indicates that the following intersections should be signalized by 2010:

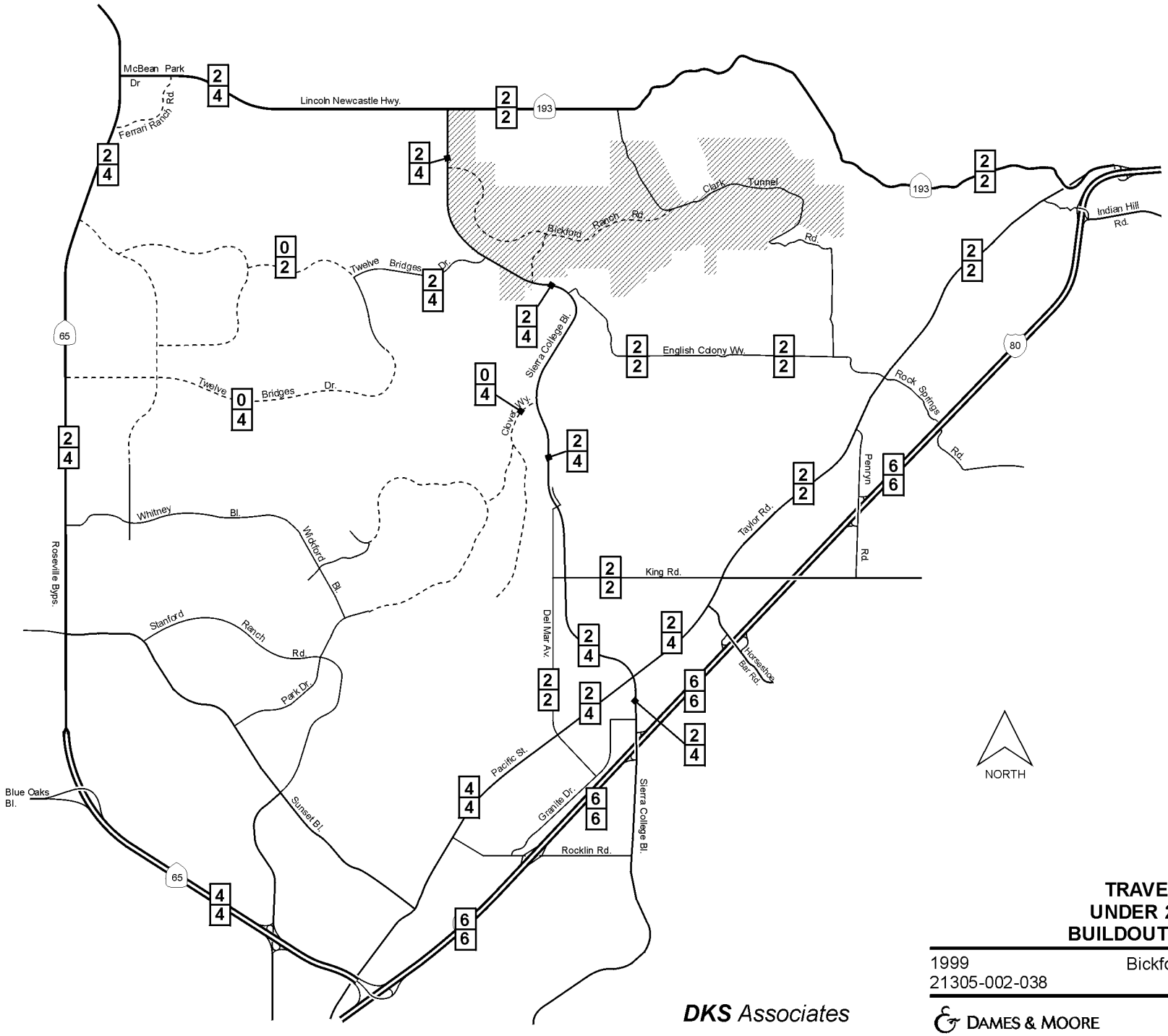
- SR 193 / Sierra College Boulevard
- Twelve Bridge Drive / Sierra College Boulevard
- English Colony Way / Sierra College Boulevard
- Clover Valley Road / Sierra College Boulevard
- King Road / Sierra College Boulevard
- English Colony / Taylor Road

No additional traffic signals were identified under Buildout of Project Vicinity conditions.

7.3.5 Construction Impacts

Construction of the proposed project would have traffic impacts related to the following project elements:

- On-site construction of infrastructure and buildings
- Construction of the off-site sewer line
- Construction of the off-site water line



TRAVEL LANE ASSUMPTIONS UNDER 2010 GENERAL PLAN & BUILDOUT OF PROJECT VICINITY

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FIGURE 7-3

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IMPACT T-1:	Short-term traffic impacts related to project construction
SIGNIFICANCE:	Potentially Significant
MITIGATION	
Proposed:	Mitigation Measures T-A (Prepare and implement construction traffic management plans for on-site construction activities for Bickford Ranch Road and Sierra College Boulevard, and coordinate with appropriate agencies in the preparation and implementation of construction traffic management plans for required off-site improvements); and T-B (Implement a community relations program during on-site construction, and coordinate with appropriate agencies in the implementation of a community relations program during construction of required on-site and off-site improvements)
Recommended:	None
RESIDUAL SIGNIFICANCE:	Less Than Significant

The on-site construction of the proposed project is expected to last for approximately six to eight years, subject to economic conditions. The maximum number of construction workers on the site in any given day is estimated to be 132. During this peak construction period, there would be about 330 daily vehicle trips generated by construction workers, plus an estimated 10 to 50 vehicles (mostly trucks) per day delivering materials to the site, depending on the activity occurring. Site access during construction would be from Sierra College Boulevard and SR 193.

The off-site sewer line would follow along the south side, and within the SR 193 right-of-way, to a point east of the SR 193 crossing of Auburn Ravine. Since the pipeline would be constructed along the alignment of a detour road (which Caltrans will construct as part of the SR 193 realignment improvement project), traffic impacts related to this construction would not be significant. The off-site water pipeline would be constructed within the existing rights-of-way of Swetzer Road, Butler Road and English Colony Way. One-way traffic control during the construction of this pipeline may be required on these low volume roadways.

Implementation of a traffic control plan and a community relations during construction would reduce this impact to a less than significant level.

7.3.6 Impacts Under Existing Plus Project Conditions

The “existing plus project” analysis represents an unlikely scenario given the magnitude of development in the proposed project. In reality, the proposed project will develop over a period of years (as dictated by market absorption rates), and thus other development outside the proposed project would also occur in this same time frame. The existing plus project analysis reports a worst-case scenario for CEQA purposes.

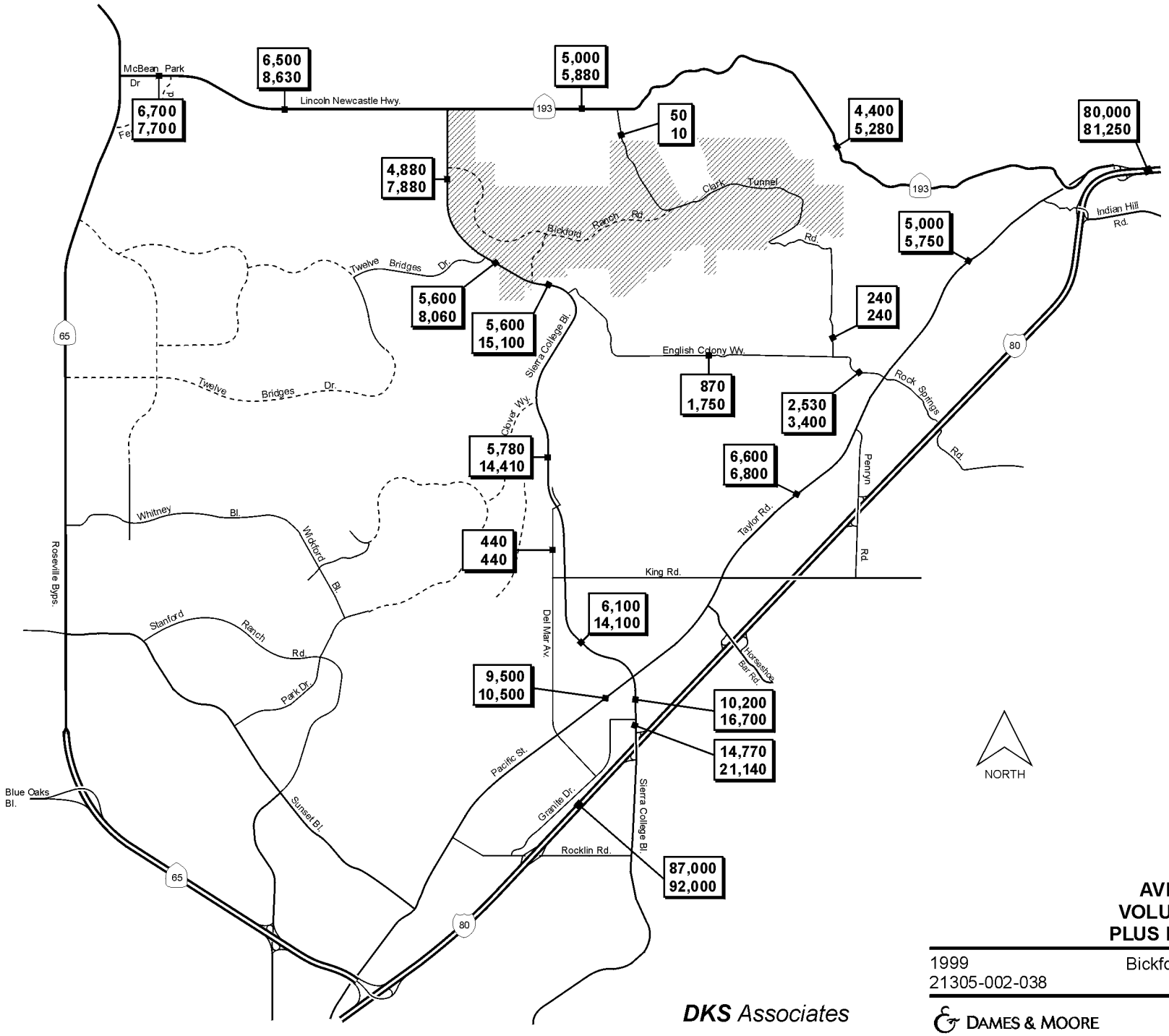
In the determination of “existing plus project” traffic conditions, traffic associated with the proposed project is superimposed upon existing conditions as if the project were instantaneously and fully developed. To superimpose this traffic, two steps are necessary. First, traffic associated with full development of the project is estimated (trip generation). Table 7-6 shows the estimated traffic generated by the proposed project. Second, this traffic is assigned to the roadway network in accordance with projected travel patterns (trip distribution). Table 7-7 provides the estimated distribution of traffic under this scenario.

A roadway segment level of service analysis based on daily traffic volumes is presented in Table 7-8. Figure 7-4 shows the Existing Plus Proposed Project average daily traffic volumes. This analysis indicates that full development of the proposed project would cause several sections of Sierra College Boulevard to operate at unacceptable levels of service. Between Bickford Ranch Road and King Road the proposed project would cause traffic operations on Sierra College Boulevard to deteriorate from LOS "A" conditions today to LOS "D" conditions. Between Taylor Road and Granite Drive, Sierra College Boulevard currently operates at LOS "A" conditions, but would operate at LOS "E" conditions with the proposed project. From Granite Drive to I-80, Sierra College Boulevard currently operates at LOS "D" conditions, which is acceptable under the Placer County General Plan since it lies within one-half mile of a state highway. With development of the proposed project, this section of Sierra College Boulevard would operate at LOS "F" conditions.

Table 7-8
Roadway Segment Levels of Service
Existing Plus Proposed Project Conditions

Roadway	Segment	No. of Lanes	No Project		Proposed Project	
			ADT	LOS	ADT	LOS
Sierra College Blvd.	SR 193 to Twelve Bridges	2	4,880	A	7,880	A
	Twelve Bridges to Bickford Ranch Rd	2	5,600	A	8,060	A
	Bickford Ranch Rd to English Colony	2	5,600	A	15,100	D
	English Colony to King Road	2	5,780	A	14,410	D
	King Road to Taylor Road	2	6,100	A	14,100	C
	Taylor Road to Granite Dr	2	10,200	A	16,700	E
	Granite Dr to I-80	2	14,770	D	21,140	F
SR 193	SR 65 to Lincoln City Limits	2	6,700	A	7,700	A
	Lincoln City Limits to Sierra College	2	6,500	A	8,630	A
	Sierra College to Clark Tunnel Rd	2	5,000	A	5,880	A
	Clark Tunnel to Newcastle	2	4,400	A	5,280	A
I-80	West of Sierra College Blvd	6	87,000	D	92,000	D
	East of SR 193	6	80,000	D	81,250	D
Lower Ranch Rd.	East of Sierra College Blvd	2	-		1,200	A
Bickford Ranch Rd.	East of Sierra College Blvd	2	-		11,300	B
Clark Tunnel Rd.	SR 193 to Callison Rd	2	50	A	10	A
	Callison Rd To English Colony Way	2	240	A	200	A
English Colony Wy.	Sierra Coll. Blvd to Clark Tunnel Rd	2	870	A	1,750	A
	Clark Tunnel Rd to Taylor Rd	2	2,530	A	3,400	A

Source: DKS Associates, 1999



AVERAGE DAILY TRAFFIC VOLUMES UNDER EXISTING PLUS PROJECT CONDITIONS

1999
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FIGURE 7-4

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Table 7-9 presents the intersection level of service analysis for the a.m. and p.m. peak hours under the Existing Plus Proposed Project scenario. The traffic volumes and existing lane geometrics at each intersection in Table 7-9 are shown in Appendix C. This analysis indicates that the proposed project would cause two intersections along Sierra College Boulevard (the I-80 westbound ramps and the I-80 eastbound ramps) to operate at unacceptable levels of service.

The roadway segment and intersection level of service analyses indicates that Sierra College Boulevard should be widened to four lanes before the proposed project is fully developed. The forecasted travel demand levels in the Placer County General Plan EIR indicated the need to widen Sierra College Boulevard from SR 193 to I-80 before the year 2010. Traffic demand on this section of Sierra College Boulevard will be impacted by development not only in Bickford Ranch, but by approved development near Sierra College Boulevard in Lincoln, Rocklin, Loomis and some other unincorporated areas in South Placer County. The amount of development that could occur before Sierra College Boulevard would reach unacceptable levels of service, and thus need to be widened to four lanes will depend on the following:

- The location of the development – The percentage of traffic that would use Sierra College Boulevard would be greater for development close to Sierra College Boulevard than for development that is further away.

- The type of development – Residential, retail, office and industrial uses have different travel patterns.

- The section of Sierra College Boulevard – The portion of Sierra College Boulevard that is between Granite Drive and I-80 has little "spare" capacity compared to the sections north of Granite Drive.

For all the reasons outlined above, a definitive estimate of the amount of development that can occur before Sierra College Boulevard needs to be widened can not be made. For this EIR, a generalized analysis was conducted to define the development potential "in the vicinity of the proposed project" before widening of Sierra College Boulevard would be required. This analysis, summarized in Table 7-10, defines the number of dwelling units that could be developed in Bickford Ranch or in other areas adjacent to Sierra College Boulevard north of King Road (such as the Twelve Bridges Specific Plan or Clover Valley Lakes). These estimates were based on the traffic distribution under the Existing Plus Proposed Project scenario shown in Table 7-7. Two estimates of development potential were estimated. One estimate reflects the mix of single family and retirement (age-restricted) units in the Bickford Ranch development, while the other estimate reflects all single-family units.

The analysis summarized in Table 7-10 indicates that only about 300 to 400 dwelling units could be developed before the section of Sierra College Boulevard between Granite Drive and I-80 should be widened to four lanes. This section of Sierra College Boulevard would also be impacted by retail and residential development in Rocklin and Loomis. North of Granite Drive, higher levels of development could occur before Sierra College Boulevard would require widening.

Table 7-9
Intersection Levels of Service – Existing Plus Project Conditions

Intersection		Traffic Control Type	No Project						Plus Proposed Project					
			AM			PM			AM			PM		
			LOS	LOS Criteria[1]		LOS	LOS Criteria[1]		LOS	LOS Criteria[1]		LOS	LOS Criteria[1]	
SR 193	SR 65	Signal	A	0.51	V/C	A	0.58	V/C	A	0.53	V/C	B	0.62	V/C
SR 193	Sierra College – overall	Stop	A	2.1	sec	A	3.1	sec	A	3.8	sec	A	4.3	sec
	NB Approach		*B*	*7.3*	*sec*	*B*	*6.8*	*sec*	*C*	*9.8*	*sec*	*C*	*9.4*	*sec*
	WB Left		*B*	*6.6*	*sec*	*A*	*3.1*	*sec*	*B*	*7.5*	*sec*	*B*	*7.9*	*sec*
SR 193	Clark Tunnel Road – overall	Stop	A	0.0	sec	A	0.0	sec	A	0.0	sec	A	0.0	sec
	NB Approach		*A*	*N/A[2]*	*sec*	*A*	*N/A[2]*	*sec*	*A*	*N/A[2]*	*sec*	*A*	*N/A[2]*	*sec*
	WB Left		*A*	*N/A[2]*	*sec*	*A*	*N/A[2]*	*sec*	*A*	*N/A[2]*	*sec*	*A*	*N/A[2]*	*sec*
Sierra College	Lower Ranch Road – overall	Stop	N/A			N/A			A	0.6	sec	A	0.5	sec
	SB Left								*A*	*2.8*	*sec*	*A*	*3.5*	*sec*
	WB Approach								*B*	*5.5*	*sec*	*B*	*5.9*	*sec*
Sierra College	Twelve Bridges Dr. – overall	Stop	A	0.2	sec	A	0.4	sec	A	0.2	sec	A	0.4	sec
	NB Left		*A*	*3.2*	*sec*	*A*	*2.6*	*sec*	*A*	*3.5*	*sec*	*A*	*2.9*	*sec*
	EB Approach		*A*	*4.0*	*sec*	*A*	*4.3*	*sec*	*A*	*4.4*	*sec*	*B*	*5.2*	*sec*
Sierra College	Bickford Ranch Road	Signal	N/A			N/A			A	0.58	V/C	A	0.58	V/C
Sierra College	English Colony Way – overall	Stop	A	0.2	sec	A	0.2	sec	A	0.4	sec	A	0.6	sec
	SB Left		*A*	*2.5*	*sec*	*A*	*3.0*	*sec*	*A*	*3.3*	*sec*	*B*	*5.1*	*sec*
	WB Approach		*A*	*4.4*	*sec*	*A*	*4.9*	*sec*	*B*	*6.4*	*sec*	*B*	*7.9*	*sec*
Sierra College	Del Mar Avenue – overall	Stop	A	0.8	sec	A	0.6	sec	A	1.0	sec	A	0.7	sec
	NB Left		*A*	*3.2*	*sec*	*N/A[2]*	*N/A[2]*		*B*	*5.2*	*sec*	*N/A[2]*	*N/A[2]*	
	SB Left		*N/A[2]*	*N/A[2]*		*A*	*3.0*	*sec*	*N/A[2]*	*N/A[2]*		*A*	*4.9*	
	EB Approach		*B*	*6.9*	*sec*	*B*	*6.6*	*sec*	*C*	*16.8*	*sec*	*C*	*17.1*	*sec*
	WB Approach		*B*	*7.3*	*sec*	*B*	*6.6*	*sec*	*C*	*19.1*	*sec*	*C*	*17.2*	*sec*
Sierra College	King Road – overall	Stop	A	0.9	sec	A	1.2	sec	A	0.9	sec	A	1.6	sec
	NB Left		*A*	*2.8*	*sec*	*A*	*2.6*	*sec*	*A*	*4.4*	*sec*	*A*	*3.4*	*sec*
	SB Left		*A*	*2.6*	*sec*	*A*	*3.1*	*sec*	*A*	*3.3*	*sec*	*B*	*5.1*	*sec*
	EB Approach		*B*	*5.2*	*sec*	*B*	*7.4*	*sec*	*C*	*11.5*	*sec*	*D*	*20.6*	*sec*
	WB Approach		*A*	*4.8*	*sec*	*A*	*5.0*	*sec*	*B*	*8.4*	*sec*	*B*	*9.9*	*sec*
Sierra College	Taylor Road	Signal	A	0.44	V/C	A	0.49	V/C	B	0.66	V/C	C	0.72	V/C
Sierra College	Granite Drive	Signal	A	0.46	V/C	B	0.69	V/C	B	0.63	V/C	D	0.87	V/C
Sierra College	I-80 WB Ramps	Signal	C	0.75	V/C	C/D	0.80	V/C	D/E	0.90	V/C	F	1.04	V/C
Sierra College	I-80 EB Ramps	Signal	C	0.76	V/C	D	0.88	V/C	E	0.95	V/C	F	1.10	V/C
English Colony Wy.	Clark Tunnel Road – overall	Stop	A	0.6	sec	A	0.5	sec	A	0.6	sec	A	0.4	sec
	SB Approach		*A*	*4.6*	*sec*	*A*	*4.4*	*sec*	*B*	*5.0*	*sec*	*A*	*4.9*	*sec*
	EB Left		*A*	*2.4*	*sec*	*A*	*2.5*	*sec*	*A*	*2.5*	*sec*	*A*	*2.6*	*sec*
English Colony Wy.	Taylor Road	Stop	B	6.4	sec	C	11.6	sec	B	7.8	sec	C	11.9	sec

Notes: [1] Overall LOS at stop-sign controlled intersections represent weighted average of all approaches.
[2] No vehicles were observed making this movement during the a.m. or p.m. peak hours.

Source: DKS Associates, 1999.

Table 7-10
Development Potential in the Vicinity of the Proposed Project Before Widening of Sierra College Boulevard is Required

Segment of Sierra College Blvd.	Existing ADT	"Spare" ADT[1]	Additional Dwelling Units Before Widening is Required[2]	
			Mixed Units[3]	Single Family Units
SR 193 to Project Site	4,900	9,500	6,500	4,500
Project Site to English Colony Way	5,600	8,800	1,900	1,300
English Colony Way to King Rd.	5,800	8,600	2,000	1,400
King Rd. to Taylor Rd.	6,100	8,300	2,100	1,500
Taylor Rd. to Granite Dr.	10,200	6,000	1,900	1,300
Granite Dr. to I-80	14,800	1,400	400	300

Notes:
[1] North of Taylor Road, reflects difference between LOS "C" capacity and existing traffic volume. Between I-80 and Taylor Road, based on LOS "D" capacity. The LOS "C" and LOS "D" capacities for a two-lane arterial with "moderate access control" is 14,400 and 16,200 ADT, respectively.
[2] Based on estimated percentage of external trips (see Table 7-6) and trip distribution (see Table 7-7) from proposed project.
[3] Reflects mix of single family and retirement (age-restricted) units in full Bickford Ranch development.
Source: DKS Associates, 1999

The traffic impacts and mitigation measures identified under "Existing Plus Project" conditions are outlined below. The existing and "Existing Plus Project" lane geometrics at each intersection discussed in this section are shown in Appendix C.

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IMPACT T-2: Under Existing Plus Project conditions, traffic operations at the intersection of Sierra College Boulevard and I-80 westbound ramps in Rocklin would worsen from LOS "C" to LOS "F" during the p.m. peak hour. The intersection of Sierra College Boulevard and I-80 eastbound ramps would worsen from LOS "C" to LOS "E" during the a.m. peak hour and from LOS "D" to LOS "F" during the p.m. peak hour

SIGNIFICANCE: Significant

MITIGATION

Proposed: Mitigation Measure T-C (Pay pro-rata fair share of reconstruction of the I-80/Sierra College Boulevard interchange)

Recommended: None

RESIDUAL SIGNIFICANCE: Less Than Significant

The intersection of Sierra College Boulevard and the I-80 eastbound ramps currently operates at LOS "D" conditions during the p.m. peak hour, which is acceptable under Placer County's level of service policy since it is within one-half mile of a state highway. Development of only a portion of the project site

would cause this intersection, and the Sierra College Boulevard/I-80 westbound ramp intersection, to operate at unacceptable levels of service. However, the need for improving this interchange would also result from other approved development in the study area, including the proposed project. The Applicant proposes to pay a pro-rata fair share of the cost to improve the I-80/Sierra College Boulevard interchange. The City of Rocklin is working with Caltrans to redesign this intersection. This would include replacing the overpass with a wider and longer structure as well as relocating and widening the ramps. The interchange improvement is included in the Metropolitan Transportation Plan, but does not yet have funding. With reconstruction of this interchange, this impact would be reduced to a less than significant level.

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IMPACT T-3: Under Existing Plus Project conditions, traffic operations on the eastbound stop-sign controlled approach of King Road at Sierra College Boulevard in Loomis would worsen from LOS "B" to LOS "D" during the p.m. peak hour

SIGNIFICANCE: Less Than Significant

MITIGATION: None Warranted

A traffic signal would not be warranted at this intersection under Existing Plus Proposed Project conditions. The average delay for vehicles waiting at the stop-sign controlled approach on eastbound King Road would be about 20 seconds per vehicle during the afternoon peak hour. The "overall" level of service (representing a weighted average of delay on all approaches) would be LOS "A." Due to the low eastbound volume (about 24 vehicles per hour) this impact is considered less than significant.

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IMPACT T-4: Under Existing Plus Project conditions, Sierra College Boulevard between Taylor Road and Granite Drive in Rocklin would worsen from LOS "A" to LOS "E," and Sierra College Boulevard between Granite Drive and I-80 in Rocklin would worsen from LOS "D" to LOS "F" based on a daily roadway segment level of service analysis

SIGNIFICANCE: Significant

MITIGATION

Proposed: Mitigation Measure T-D (Pay pro-rata fair share to widen Sierra College Boulevard from two to four lanes from Taylor Road to I-80)

Recommended: None

RESIDUAL SIGNIFICANCE: Less Than Significant

The need for improving this section of Sierra College Boulevard would result from the cumulative impact of approved development in the study area, including the proposed project. The Applicant proposes to pay a pro-rata fair share of the cost to improve this section of Sierra College Boulevard. With implementation of this mitigation measure, the impact would be reduced to a less than significant level.

7.3.7 Impacts Under 2010 General Plan Plus Project Conditions

To determine the traffic volumes under the 2010 General Plan Plus Project conditions, traffic associated with the proposed project is superimposed upon the traffic forecasts (developed by the Placer County travel demand model) under the 2010 General Plan, assuming the future transportation improvements described in Section 7.3.4 and no other development on the project site. The trip generation for the proposed project is shown in Table 7-6 and the distribution of project traffic under this scenario is shown in Table 7-7.

Figure 7-5 shows the estimated average daily traffic volumes under the 2010 General Plan with and without the proposed project. A roadway segment level of service analysis based on daily traffic volumes is presented in Table 7-11. This analysis indicates that development of the proposed project would cause the section of Sierra College Boulevard from Taylor Road to Granite Drive to operate at LOS "E" conditions. If the proposed project were not constructed by 2010, this section of Sierra College Boulevard would operate at LOS "D" conditions. Under the 2010 General Plan, it was assumed that Sierra College Boulevard would be widened to four lanes from SR 193 to Granite Drive, and to six lanes from Granite Drive to I-80.

The roadway segment analysis also indicates that I-80 would operate at LOS "F" conditions west of Sierra College Boulevard and east of SR 193, assuming no improvements (i.e., six lanes), with or without the proposed project. This same impact was identified for the 2010 Base Network in the General Plan EIR. The recommended mitigation measures identified in the General Plan EIR were the construction of HOV lanes from the Sacramento County line to Sierra College Boulevard and construction of an eastbound truck climbing lane from Penryn to SR 49. With these mitigation measures, I-80 would operate at LOS "E" conditions with or without the proposed project.

Table 7-11
Roadway Segment Levels of Service
2010 General Plan Plus Proposed Project

Roadway	Segment	No. of Lanes	No Project		Proposed Project	
			ADT	LOS	ADT	LOS
Sierra College Blvd.	SR 193 to Twelve Bridges	4	12,690	A	16,440	A
	Twelve Bridges to Bickford Ranch Rd	4	15,220	A	18,880	A
	Bickford Ranch Rd to English Colony	4	15,220	A	23,220	B
	English Colony to King Road	4	13,990	A	20,490	A
	King Road to Taylor Road	4	15,970	A	21,720	B
	Taylor Road to Granite Dr	4	29,200	D	34,070	E
	Granite Dr to I-80	6	30,970	A	35,350	B
SR 193	SR 65 to Lincoln City Limits	4	12,120	A	13,740	A
	Lincoln City Limits to Sierra College	4	19,550	A	22,680	B
	Sierra Coll. Blvd to Clark Tunnel Rd	2	13,430	C	14,060	C
	Clark Tunnel Rd to Newcastle	2	9,300	A	9,920	A
I-80	West of Sierra College Blvd	6	110,000	F	113,500	F
	East of SR 193	6	100,000	F	100,750	F
Lower Ranch Rd.	East of Sierra College Blvd	2	-		1,390	A
Bickford Ranch Rd.	East of Sierra College Blvd	2	-		11,110	B
12 Bridges Rd.	West of Sierra College Blvd	4	2,560	A	3,310	A
Clover Valley Rd.	West of Sierra College Blvd	2	2,820	A	3,700	A
Clark Tunnel Rd	SR 193 to Callison Rd	2	50	A	10	A
	Callison Rd To English Colony Way	2	460	A	420	A
English Colony Way	Sierra Coll. Blvd to Clark Tunnel Rd	2	3,200	A	3,830	A
	Clark Tunnel Rd to Taylor Rd	2	4,770	A	5,400	A

Notes:
ADT = average daily traffic
Source: DKS Associates, 1999

Table 7-12 presents the intersection level of service analysis for the proposed project. The traffic volumes and lane geometrics at each intersection in Table 7-12 are provided in Appendix C. This analysis indicates that level of service "D," "E" or "F" conditions would exist at several intersections. The traffic impacts and mitigation measures identified under the 2010 General Plan with the proposed project are outlined below.

The traffic impacts and mitigation measures identified under 2010 General Plan conditions are outlined below.

IMPACT T-5: Under 2010 General Plan Plus Project conditions, the intersection of SR 193 and SR 65 would operate at LOS "E" conditions during the a.m. peak hour and LOS "F" conditions during the p.m. peak hour with or without the proposed project

SIGNIFICANCE: Significant

MITIGATION

Proposed: Mitigation Measure T-E (Pay Placer County traffic mitigation fees)

Recommended: None

RESIDUAL SIGNIFICANCE: Less Than Significant

The City of Lincoln and Caltrans do not plan improvements to this intersection, but intend to relieve the anticipated congestion along SR 65 through central Lincoln by constructing the SR 65 Bypass. The analysis of the 2010 General Plan conditions did not include the bypass around Lincoln, which is planned to be constructed by 2010, but does not yet have funding. The Lincoln Bypass is, however, included in the Metropolitan Transportation Plan and will likely be funded and constructed by 2010. The need for this improvement would result from the cumulative impact of development in the study area, and the proposed project would contribute a relatively small portion of the future demand on SR 65. The Placer County Traffic Mitigation Fee Program includes a share of the funding for route adoption and right-of-way for the Lincoln Bypass. By paying traffic fees, the proposed project would be contributing funds to the Bypass project. The Lincoln Bypass would divert a substantial amount of traffic from existing SR 65 in central Lincoln to the Bypass and greatly improve the operations at the intersection of SR 193 and SR 65. With construction of the Lincoln Bypass, this impact would be reduced to a less than significant level.

———— ■ ————

IMPACT T-6: Under 2010 General Plan Plus Project conditions, the westbound stop-sign controlled approach of Lower Ranch Road at Sierra College Boulevard would operate at LOS "E" conditions during the a.m. and p.m. peak hours

SIGNIFICANCE: Less Than Significant

MITIGATION: None Warranted

A traffic signal would not be warranted at this intersection under 2010 General Plan Plus Project conditions. The average delay for the stop-sign controlled approach on Lower Ranch Road would be about 31 to 34 seconds during peak commute hours. The "overall" level of service (representing a weighted average of delay on all approaches) would be LOS "A." Due to the low volume of traffic on this approach, this impact is considered less than significant.

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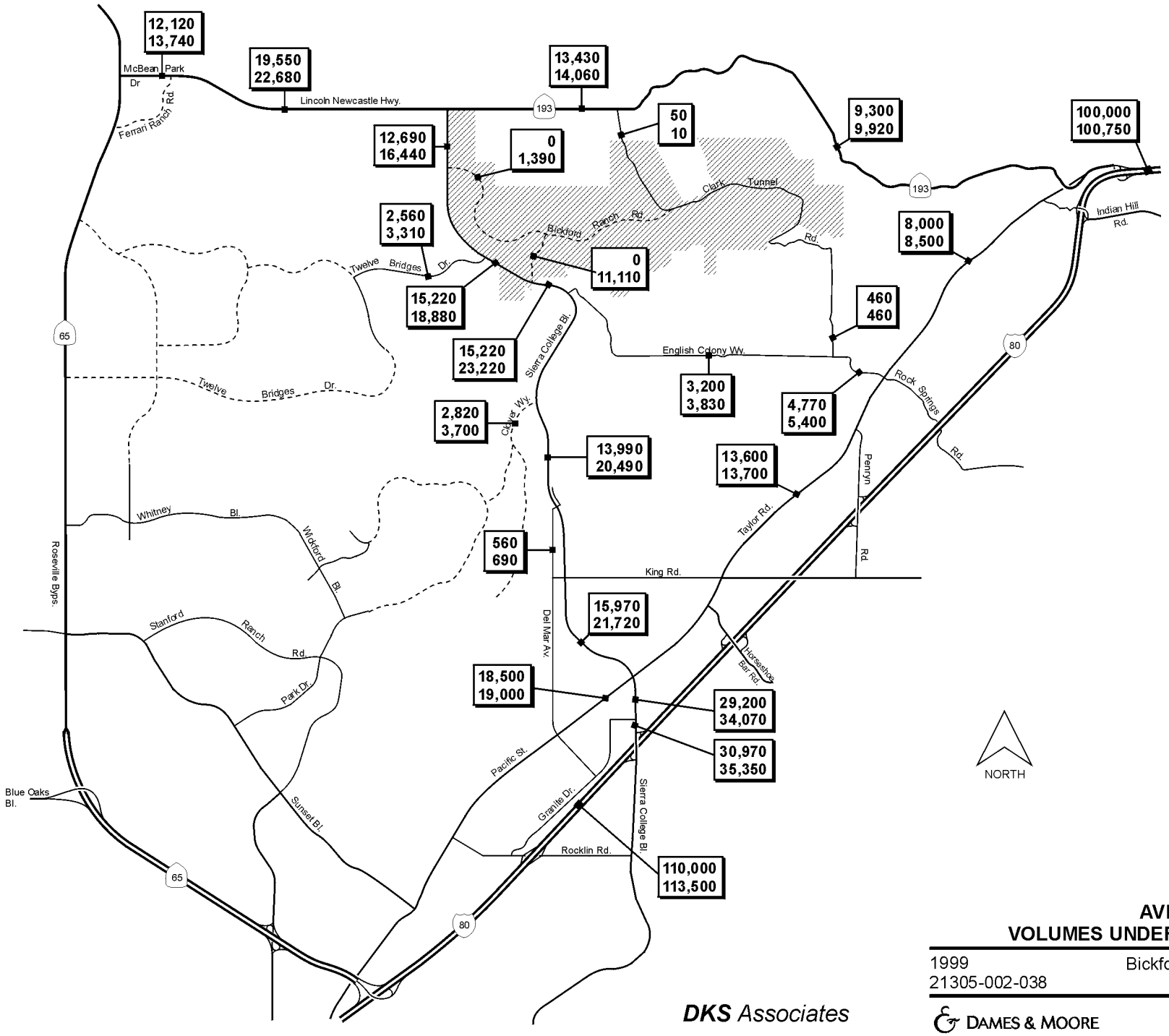

AVERAGE DAILY TRAFFIC VOLUMES UNDER 2010 GENERAL PLAN

1999
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FIGURE 7-5

8/13/99 sv ../21305-002/mapdm.cdr (layer: adt2010)

Table 7-12
Intersection Levels of Service – 2010 General Plan With Proposed Project

Intersection		Control Type	No Project						Plus Proposed Project					
			AM			PM			AM			PM		
			LOS	LOS Criteria[1]		LOS	LOS Criteria[1]		LOS	LOS Criteria[1]		LOS	LOS Criteria[1]	
SR 193	SR 65	Signal	E	0.95	V/C	F	1.16	V/C	E	0.96	V/C	F	1.20	V/C
SR 193	Sierra College	Signal	B	0.64	V/C	C	0.72	V/C	C	0.73	V/C	C	0.78	V/C
SR 193	Clark Tunnel Road – overall	Stop	A	0.0	sec	A	0.0	sec	A	0.0	sec	A	0.0	sec
	NB Approach		*A*	*3.5*	*sec*	*A*	*0.0*	*sec*	*A*	*3.6*	*sec*	*A*	*0.0*	*sec*
	WB left		*A*	*2.8*	*sec*	*A*	*0.0*	*sec*	*A*	*2.9*	*sec*	*A*	*0.0*	*sec*
Sierra College	Lower Ranch Road – overall	Stop	N/A			N/A			A	0.8	sec	A	0.5	sec
	SB Left								*A*	*4.9*	*sec*	*B*	*5.4*	*sec*
	WB Approach								*E*	*31.2*	*sec*	*E*	*33.6*	*sec*
Sierra College	Twelve Bridges Drive	Signal	A	0.40	V/C	A	0.38	V/C	A	0.46	V/C	A	0.46	V/C
Sierra College	Bickford Ranch Road	Signal	N/A			N/A			A	0.50	V/C	A	0.46	V/C
Sierra College	English Colony Way	Signal	A	0.38	V/C	A	0.36	V/C	A	0.47	V/C	A	0.51	V/C
Sierra College	Clover Valley Road	Signal	A	0.30	V/C	A	0.25	V/C	A	0.43	V/C	A	0.40	V/C
Sierra College	Del Mar Avenue – overall	Stop	A	1.5	sec	A	0.9	sec	A	3.7	sec	A	2.1	sec
	NB Left		*A*	*4.9*	*sec*	*N/A*[2]	*N/A*[2]		*B*	*1.3*	*sec*	*N/A*[2]	*N/A*[2]	
	SB Left		*A*	*4.8*	*sec*	*A*	*4.5*	*sec*	*B*	*5.9*	*sec*	*B*	*6.8*	*Sec*
	EB Approach		*D*	*25.0*	*sec*	*D*	*23.4*	*sec*	*F*	*64.0*	*sec*	*F*	*69.0*	*Sec*
	WB Approach		*E*	*30.0*	*sec*	*D*	*23.4*	*sec*	*F*	*98.7*	*sec*	*F*	*57.9*	*Sec*
Sierra College	King Road	Signal	A	0.40	V/C	A	0.44	V/C	A	0.49	V/C	A	0.59	V/C
Sierra College	Taylor Road	Signal	D	0.88	V/C	D	0.88	V/C	E	0.97	V/C	E	0.93	V/C
Sierra College	Granite Drive	Signal	B	0.63	V/C	C	0.74	V/C	B	0.67	V/C	C/D	0.80	V/C
Sierra College	I-80 WB Ramps	Signal	C	0.74	V/C	C	0.73	V/C	C	0.79	V/C	D	0.81	V/C
Sierra College	I-80 EB Ramps	Signal	B	0.63	V/C	B	0.62	V/C	B	0.65	V/C	B	0.69	V/C
English Colony Wy.	Clark Tunnel Road – overall	Stop	A	0.7	sec	A	0.5	sec	A	0.7	sec	A	0.5	Sec
	SB Approach		*B*	*6.0*	*sec*	*B*	*5.8*	*sec*	*B*	*6.3*	*sec*	*B*	*6.2*	*Sec*
	EB Left		*A*	*3.0*	*sec*	*A*	*2.6*	*sec*	*A*	*3.0*	*sec*	*A*	*2.7*	*Sec*
English Colony Wy.	Taylor Road	Signal	B	0.67	V/C	C	0.79	V/C	B/C	0.70	V/C	C/D	0.80	V/C

Notes: [1]Overall LOS at stop-sign controlled intersections represent weighted average of all approaches
[2] No vehicles were observed making this movement during the a.m. or p.m. peak hours.
Source: DKS Associates, 1999.

IMPACT T-7: Under 2010 General Plan Plus Project conditions, the proposed project would cause operations on the westbound stop-sign controlled approach of Del Mar Avenue at Sierra College Boulevard in Loomis to worsen from LOS "E" to LOS "F" during the a.m. peak hour, and from LOS "D" to LOS "F" in the p.m. peak hour. The eastbound approach would worsen from LOS "D" to LOS "F" during both the a.m. and p.m. peak hours

SIGNIFICANCE: Less Than Significant

MITIGATION: None Warranted

A traffic signal would not be warranted at this intersection under the 2010 General Plan with or without the proposed project. The average delay for the eastbound approach would be about 64 to 69 seconds during peak commute hours with the proposed project. The average delay for the westbound approach would be about 98 seconds during the a.m. peak hour and about 58 seconds during the p.m. peak hour. The "overall" level of service (representing a weighted average of delay on all approaches) would be LOS "A." A future traffic signal at King Road and Sierra College Boulevard would provide a location for vehicles on Del Mar Avenue west of Sierra College Boulevard to access Sierra College Boulevard at a signal-controlled intersection. Due to the low volumes on these approaches, and the availability of the signal at Taylor Road and Sierra College Boulevard, this impact is considered to be less than significant.

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IMPACT T-8: Under 2010 General Plan Plus Project conditions, the proposed project would cause operations at the intersection of Sierra College Boulevard and Taylor Road in Loomis to worsen from LOS "D" to LOS "E" during both a.m. and p.m. peak hours

SIGNIFICANCE: Significant

MITIGATION

Proposed: Mitigation Measure T-F (Pay pro-rata fair share of adding a second westbound left-turn lane on Taylor Road at the Sierra College Boulevard intersection)

Recommended: None

RESIDUAL SIGNIFICANCE: Less Than Significant

The need for improving this intersection would result from the cumulative impact of approved development in the study area, including the proposed project. The Applicant proposes to pay a pro-rata fair share of the cost to improve this intersection. The addition of a second westbound left-turn lane on Taylor Road would allow the intersection to operate at LOS "D" in the a.m. peak hour and LOS "C" in the p.m. peak hour and thereby reduce this impact to a less than significant level.

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IMPACT T-9: Under 2010 General Plan Plus Project conditions, the proposed project would cause Sierra College Boulevard between Taylor Road and Granite Drive in Rocklin to worsen from LOS "D" to LOS "E," based on a daily roadway segment level of service analysis

SIGNIFICANCE: Significant

MITIGATION

Proposed: Mitigation Measure T-G (Pay pro-rata fair share of widening Sierra College Boulevard from four to six lanes from Taylor Road to Granite Drive)

Recommended: None

RESIDUAL SIGNIFICANCE: Less Than Significant

The need for improving this section would result from cumulative impacts of approved development in the study area, including the proposed project. The Applicant proposes to pay a pro-rata fair share of the cost to improve this intersection. The widening of this section of Sierra College Boulevard to six lanes would reduce this impact to a less than significant level.

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IMPACT T-10: Under 2010 General Plan conditions, the traffic volume on English Colony Way between Sierra College Boulevard and Clark Tunnel Road would reach a recommended threshold for safety improvements with or without the proposed project

SIGNIFICANCE: Significant

MITIGATION

Proposed: None

Recommended: Mitigation Measure T-H (Pay pro-rata fair share of the cost to add shoulders and improve vertical and horizontal curves along English Colony Way)

RESIDUAL SIGNIFICANCE: Less Than Significant

Traffic volumes on English Colony Way are currently low, with about 900 daily vehicles between Clark Tunnel Road and Sierra College Boulevard. This section of road does not have shoulders and has some sharp vertical and horizontal curves with limited sight distance. In the County's Capital Improvement Program, a threshold of 2,000 ADT was recommended to define when safety improvements (i.e., addition of shoulders and improvements to sight distances) should be considered. This threshold would be reached on this section of English Colony Way without the proposed project due to the assumed growth in the study area under the 2010 General Plan, but the proposed project would add an additional 630 daily vehicles. Some improvements to English Colony Way are included in the County's Capital Improvement Program and Traffic Mitigation Fees. The recommended mitigation measure would require the Applicant to pay a pro-rata fair share of the cost of the improvements to this section of English Colony Way. The Applicant will advance a portion of their fair share costs up-front, to contribute to expediting some of these improvements. With these safety improvements, this impact would be reduced to a less than significant level.

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IMPACT T-11: Under 2010 General Plan conditions, I-80 west of Sierra College Boulevard and between Penryn and SR 49 would operate at LOS "F" conditions with or without the proposed project, based on a daily roadway segment level of service analysis

SIGNIFICANCE: Significant

MITIGATION

Proposed:	Mitigation Measure T-I (Participate in any development-based funding of solutions to I-80 congestion if adopted by Placer County)
Recommended:	None
RESIDUAL SIGNIFICANCE:	Potentially Significant

The EIR on the Placer County General Plan recommended the construction of HOV lanes from the Sacramento County line to Sierra College Boulevard, and the construction of an eastbound truck climbing lane from Penryn to SR 49. With these improvements, the impact would be reduced to a less than significant level. However, there is no identified funding source for these improvements to I-80.

The need for improvements to I-80 would result from growth throughout the I-80 corridor, and the proposed project would contribute a relatively small portion of the future traffic demand on I-80. Solutions to traffic congestion should be resolved through a regional effort, such as the on-going I-80 Corridor Major Investment Study that is being conducted by the Sacramento Area Council of Governments (SACOG) and the Placer County Transportation Planning Agency (PCTPA). This study may define alternative solutions to those recommended by the Placer County General Plan and may also define funding mechanisms for potential solutions.

Policy 3.A.15(a) of the Placer County General Plan states:

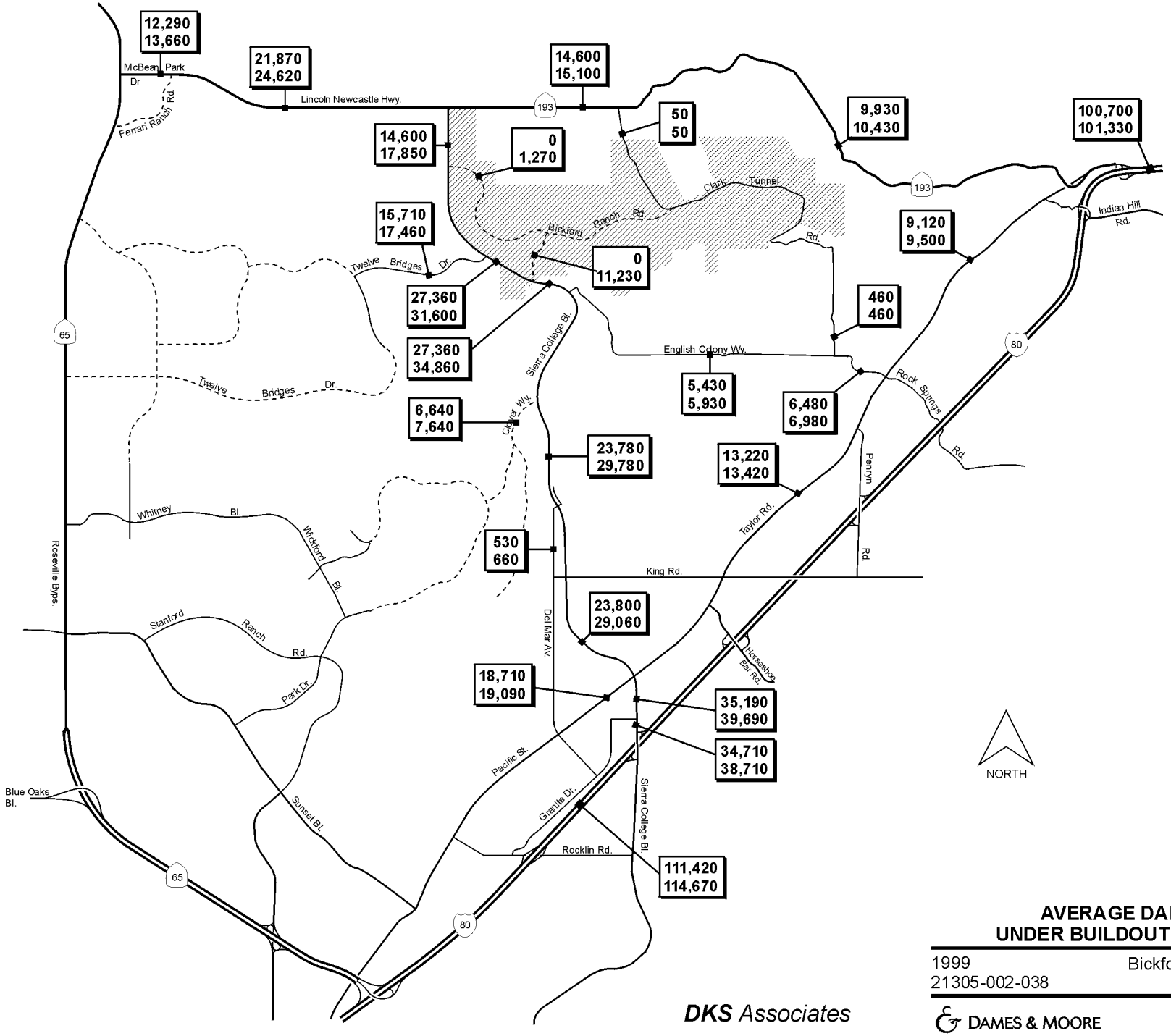
> The funding of capacity-increasing projects on I-80 shall utilize state and federal sources intended for the improvement of the regional and interstate system such as Flexible Congestion Relief (FCR). Placer County and local development shall not be required to participate financially in the upgrading of I-80 to provide additional capacity for through traffic.

Due to uncertainty about funding for solutions to congestion on I-80 (such as improvements recommended in the EIR on the Placer County General Plan) this impact is considered to be potentially significant.

7.3.8 Impacts Under Buildout of Project Vicinity Plus Project

The Buildout of Project Vicinity Scenario is based on adding full buildout of both the Clover Valley Lakes and Twelve Bridges developments to the 2010 development levels assumed in the Placer County General Plan EIR (but excluding development on the project site). To determine the traffic volumes under the Buildout of Project Vicinity plus the proposed project scenario, traffic associated with the proposed project is superimposed upon the traffic forecasts (developed by the Placer County travel demand model) under Buildout of Project Vicinity conditions. The trip generation for the proposed project is shown in Table 7-6 and the distribution of project traffic under this scenario is shown in Table 7-7. Without the proposed project, the section of Sierra College Boulevard between Taylor Road and Granite Drive would operate at LOS "E" conditions.

Figure 7-6 shows the estimated average daily traffic volumes under Buildout of Project Vicinity conditions with the proposed project. A roadway segment level of service analysis based on daily traffic volumes is presented in Table 7-13. The analysis indicates that development of the proposed project would cause other sections of Sierra College Boulevard to operate at unacceptable levels of service.



AVERAGE DAILY TRAFFIC VOLUMES UNDER BUILDOUT OF PROJECT VICINITY

1999
21305-002-038

Bickford Ranch Specific Plan EIR
Placer County, California

DKS Associates

DAMES & MOORE
A DAMES & MOORE GROUP COMPANY

FIGURE 7-6

8/13/99 sv ../21305-002/mapdm.cdr (layer: adtcc)

Table 7-14 presents the intersection level of service analysis with and without the proposed project. The traffic volumes and lane geometrics at each intersection in Table 7-14 are provided in Appendix C. This analysis indicates that level of service "D," "E" or "F" conditions would exist at several intersections. The traffic impacts and mitigation measures identified under Buildout of Project Vicinity conditions with the proposed project are outlined below.

Table 7-13
Roadway Segment Levels of Service
Buildout of Project Vicinity Conditions With Proposed Project

Roadway	Segment	No. of Lanes	No Project		Proposed Project	
			ADT	LOS	ADT	LOS
Sierra College Blvd.	SR 193 to Twelve Bridges	4	14,600	A	17,850	A
	Twelve Bridges to Bickford Ranch Rd	4	27,360	C	31,600	D
	Bickford Ranch Rd to English Colony	4	27,360	C	34,860	E
	English Colony to King Road	4	23,780	B	29,780	D
	King Road to Taylor Road	4	23,800	B	29,060	D
	Taylor Road to Granite Dr	4	35,190	E	39,690	F
	Granite Dr to I-80	6	34,710	B	38,710	C
SR 193	SR 65 to Lincoln City Limits	4	12,290	A	13,660	A
	Lincoln City Limits to Sierra College	4	21,870	B	24,620	B
	Sierra Coll. Blvd to Clark Tunnel Rd	2	14,600	D	15,100	D
	Clark Tunnel Rd to Newcastle	2	9,930	A	10,430	A
I-80	West of Sierra College Blvd	6	111,420	F	114,670	F
	East of SR 193	6	100,700	F	101,330	F
Lower Ranch Rd.	East of Sierra College Blvd	2	-	A	1,270	A
Bickford Ranch Rd.	East of Sierra College Blvd	2	-	A	11,230	B
12 Bridges Rd.	West of Sierra College Blvd	4	15,710	A	17,460	A
Clover Valley Rd.	West of Sierra College Blvd	2	6,640	A	7,640	A
Clark Tunnel Rd.	SR 193 to Callison Rd	2	50	A	10	A
	Callison Rd to English Colony Way	2	460	A	420	A
English Colony Way	Sierra Coll. Blvd to Clark Tunnel Rd	2	5,430	A	5,930	A
	Clark Tunnel Rd to Taylor Rd	2	6,480	A	6,980	A

Source: DKS Associates, 1999

Table 7-14
Intersection Levels of Service – Buildout of Project Vicinity Conditions With Proposed Project

Intersection		Control Type	No Project				Plus Proposed Project			
			AM		PM		AM		PM	
			LOS	LOS Criteria[1]	LOS	LOS Criteria[1]	LOS	LOS Criteria[1]	LOS	LOS Criteria[1]
SR 193	SR 65	Signal	E	0.99 V/C	F	1.19 V/C	F	1.02 V/C	F	1.23 V/C
SR 193	Ferrari Ranch Road	Signal	B	0.65 V/C	C/D	0.80 V/C	B/C	0.70 V/C	D	0.85 V/C
SR 193	Sierra College	Signal	C	0.72 V/C	C	0.77 V/C	C	0.76 V/C	D	0.82 V/C
SR 193	Clark Tunnel Road – overall	Stop	A	0.0 sec	A	0.0 sec	A	0.0 sec	A	0.0 sec
	NB Approach		*B*	*9.9 sec*	*C*	*11.0 sec*	*C*	*10.4 sec*	*C*	*11.7 sec*
	WB Left		*A*	*2.8 sec*	*A*	*0.0 sec*	*A*	*2.9 sec*	*A*	*0.0 sec*
Sierra College	Lower Ranch Road – overall	Stop	N/A		N/A		A	0.8 sec	A	0.5 sec
	SB Left						*B*	*5.5 sec*	*A*	*5.3 sec*
	WB Left						*E*	*36.3 sec*	*E*	*37.6 sec*
Sierra College	Twelve Bridges Drive	Signal	C	0.72 V/C	C	0.79 V/C	C	0.79 V/C	D	0.87 V/C
Sierra College	Bickford Ranch Road	Signal	N/A		N/A		B	0.64 V/C	C	0.72 V/C
Sierra College	English Colony Way	Signal	A	0.52 V/C	A	0.59 V/C	A	0.58 V/C	C	0.73 V/C
Sierra College	Clover Valley Road	Signal	A	0.59 V/C	A	0.47 V/C	C	0.71 V/C	B	0.61 V/C
Sierra College	Del Mar Avenue – overall	Stop	C	11.1 sec	A	2.8 sec	E	42.3 sec	C	17.3 sec
	NB Left		*B*	*9.6 sec*	*N/A*[2]	*N/A*[2]	*C*	*14.0 sec*	*N/A*[2]	*N/A*[2]
	SB Left		*B*	*6.9 sec*	*B*	*8.9 sec*	*C*	*8.3 sec*	*C*	*13.0 sec*
	EB Approach		*F*	*115.0 sec*	*F*	*112.8 sec*	*F*	*>180 sec*[2]	*F*	*>180 sec*[2]
	WB Approach		*F*	*>180 sec*[2]	*F*	*108.0 sec*	*F*	*>180 sec*[2]	*F*	*>180 sec*[2]
Sierra College	King Road	Signal	A	0.56 V/C	C	0.71 V/C	B	0.65 V/C	D	0.84 V/C
Sierra College	Taylor Road	Signal	E	0.99 V/C	E	0.93 V/C	F	1.07 V/C	F	1.02 V/C
Sierra College	Granite Drive	Signal	B	0.68 V/C	D	0.80 V/C	C	0.76 V/C	D	0.86 V/C
Sierra College	I-80 WB Ramps	Signal	C	0.79 V/C	D	0.82 V/C	D	0.83 V/C	D	0.89 V/C
Sierra College	I-80 EB Ramps	Signal	B/C	0.70 V/C	C	0.74 V/C	C	0.71 V/C	D	0.80 V/C
English Colony Wy.	Clark Tunnel Road – overall	Stop	A	0.6 sec	A	0.4 sec	A	0.6 sec	A	0.4 sec
	SB Approach		*B*	*7.3 sec*	*B*	*7.7 sec*	*B*	*7.6 sec*	*B*	*8.7 sec*
	EB Left		*A*	*3.1 sec*	*A*	*3.1 sec*	*A*	*3.1 sec*	*A*	*3.1 sec*
English Colony Wy.	Taylor Road	Signal	C	0.75 V/C	C/D	0.80 V/C	C	0.77 V/C	D	0.81 V/C

Note: [1] Overall LOS at stop-sign controlled intersections represent weighted average of all approaches.
[2] Analysis methods are not accurate for calculating delays greater than 180 seconds.
Source: DKS Associates, 1999.

IMPACT T-12:	Under Buildout of Project Vicinity Plus Project conditions, the intersection of SR 193 and SR 65 would operate at LOS "F" conditions during the p.m. peak hour with or without the proposed project
SIGNIFICANCE:	Significant
MITIGATION	
Proposed:	Mitigation Measure T-E (Pay Placer County traffic mitigation fees)
Recommended:	None
RESIDUAL SIGNIFICANCE:	Less Than Significant

The City of Lincoln and Caltrans do not plan improvements to this intersection, but intend to relieve the anticipated congestion along SR 65 through central Lincoln by constructing the SR 65 Bypass. The analysis of the Buildout of Project Vicinity scenario did not include the bypass around Lincoln, which is planned to be constructed by 2010, but does not yet have funding. The Lincoln Bypass is, however, included in the Metropolitan Transportation Plan and will likely be funded and constructed by 2010. The need for this improvement would result from the cumulative impact of development in the study area, and the proposed project would contribute a relatively small portion of the future demand on SR 65. The Placer County Traffic Mitigation Fee program includes a share of the funding for route adoption and right-of-way for the Lincoln Bypass. By paying traffic fees, the proposed project would be contributing funds for the Bypass project. The Lincoln Bypass would divert a substantial amount of traffic from existing SR 65 in central Lincoln to the Bypass and greatly improve the operations at the intersection of SR 193 and SR 65. With construction of the Lincoln Bypass, this impact would be reduced to a less than significant level.

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IMPACT T-13:	Under the Buildout of Project Vicinity Plus Project conditions, the westbound stop-sign controlled approach of Lower Ranch Road at Sierra College Boulevard would operate at LOS "E" conditions during the a.m. and p.m. peak hours
SIGNIFICANCE:	Less Than Significant
MITIGATION:	None Warranted

A traffic signal would not be warranted at this intersection under Buildout of Project Vicinity conditions. The average delay for the stop-sign controlled approach on Lower Ranch Road would be about 36 to 38 seconds during peak commute hours. The "overall" level of service (representing a weighted average of delay on all approaches) would be LOS "A." Due to the low volume of traffic on this approach this impact is considered to be less than significant.

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IMPACT T-14: Under the Buildout of Project Vicinity Plus Project conditions, the proposed project would cause operations at the intersection of Sierra College Boulevard and Twelve Bridges Drive to worsen from LOS "C" to LOS "D" during both the a.m. and p.m. peak hours

SIGNIFICANCE: Significant

MITIGATION

Proposed: None

Recommended: Mitigation Measure T-J (Pay pro-rata fair share of adding a second northbound left-turn lane on Sierra College Boulevard at Twelve Bridges Drive intersection)

RESIDUAL SIGNIFICANCE: Less Than Significant

This intersection would have a heavy northbound left-turn volume during the p.m. peak hour. The most effective mitigation would be a second northbound left-turn lane on Sierra College Boulevard. The need for improving this intersection is the total volume on its "critical movements" (not specifically the northbound left turn volume), which would result from the cumulative impact of approved growth in the study area, including the proposed project. The recommended mitigation measure would require the Applicant to pay a pro-rata fair share for improvements to this intersection. The recommended improvement would reduce this impact to a less than significant level.

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IMPACT T-15: Under the Buildout of Project Vicinity Plus Project conditions, the eastbound and westbound stop-sign controlled approaches on Del Mar Avenue would operate at LOS "F" during the a.m. and p.m. peak hours with or without the proposed project

SIGNIFICANCE: Less Than Significant

MITIGATION: None Warranted

A traffic signal would not be warranted at this intersection under Buildout of Project Vicinity Plus Project conditions. With the proposed project, the average delay on these stop-sign controlled approaches would exceed 180 seconds during both the a.m. and p.m. peak hours. Under Buildout of Project Vicinity conditions without the proposed project, delays on these approaches would range from 108 seconds to more than 180 seconds during peak hours. The "overall" level of service (representing a weighted average of delay on all approaches) would be LOS "F" during the a.m. peak hour and LOS "C" during the p.m. peak hour. Due to the low volumes of traffic on these approaches, and the availability of the existing signal at King Road and Sierra College Boulevard, this impact is considered less than significant.

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IMPACT T-16: Under the Buildout of Project Vicinity Plus Project conditions, the proposed project would cause operations at the intersection of Sierra College Boulevard and King Road in Loomis to worsen from LOS "C" to LOS "D" during the p.m. peak hour

SIGNIFICANCE: Significant

MITIGATION

Proposed: Mitigation Measure T-K (Pay pro-rata fair share of adding a westbound right-turn lane on King Road at Sierra College Boulevard intersection)

Recommended: None

RESIDUAL SIGNIFICANCE: Less Than Significant

The need for improving this intersection would result from the cumulative impact of approved development in the study area, including the proposed project. The Applicant proposes to pay a pro-rata fair share of the cost to improve this intersection. The addition of a westbound right lane on King Road would reduce this impact to a less than significant level.

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IMPACT T-17: Under the Buildout of Project Vicinity Plus Project conditions, the intersection of English Colony and Taylor Road would operate at LOS "D" during the p.m. peak hour with or without the proposed project

SIGNIFICANCE: Significant

MITIGATION

Proposed: Mitigation Measure T-L (Pay pro-rata fair share of adding right-turn lanes in both directions on Taylor Road at the English Colony Way intersection)

Recommended: None

RESIDUAL SIGNIFICANCE: Less Than Significant

The need for improving this intersection would result from the cumulative impact of approved development in the study area, including the proposed project. The Applicant proposes to pay a pro-rata fair share of the cost to improve this intersection. This intersection was assumed to be signalized under the Buildout of Project Vicinity scenario based on a planning level signal warrant analysis. The addition of right-turn lanes on both of the Taylor Road approaches to this intersection would reduce this impact to a less than significant.

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IMPACT T-18: Under the Buildout of Project Vicinity Plus Project conditions, the proposed project would cause sections of Sierra College Boulevard to operate at unacceptable levels of service based on a daily roadway segment level of service analysis

SIGNIFICANCE: Significant

MITIGATION

Proposed: Mitigation Measures T-F (Pay pro-rata fair share of adding a second westbound left-turn lane on Taylor Road at Sierra College Boulevard intersection); T-G (Pay pro-rata fair share of widening Sierra College Boulevard from four to six lanes from Taylor Road to Granite Drive); and T-K (Pay pro-rata fair share of adding a westbound right-turn lane on King Road at Sierra College Boulevard intersection)

Significance After Proposed Mitigation: Significant

Recommended: Mitigation Measure T-J (Pay pro-rata fair share of adding a second northbound left-turn lane on Sierra College Boulevard at Twelve Bridges Drive intersection)

RESIDUAL SIGNIFICANCE: Less Than Significant

The capacity of arterial roadways, such as Sierra College Boulevard, are usually controlled by the capacity of its intersections during peak hours. The roadway segment analysis is based on daily volumes and the level of service thresholds that were used in the Placer County General Plan EIR. The daily level of service thresholds attempt to reflect the capacity of "typical" signalized intersections which usually contain four approaches, and often involve multiple signal phases and significant cross-flows. The signalized intersections on Sierra College Boulevard between Taylor Road and SR 193 would principally be "T" intersections with simple signal phasing. Therefore, this section of roadway would generally have a higher capacity than the daily volume thresholds used in the roadway segment analysis.

Using a more detailed intersection level of service analysis based on peak hour traffic volumes, it was found that four lanes on Sierra College Boulevard would provide adequate levels of service north of Taylor Road if feasible "spot" improvements (i.e., adding turn lanes) are made at key intersections. The need for these spot improvements would result from the cumulative impact of approved growth in the study area. Therefore, the Applicant should pay a pro-rata fair share of these improvements. With the implementation of the Mitigation Measures T-F, T-G, T-J, and T-K, this impact would be reduced to a less than significant level.

7.3.9 Internal Roadway Circulation

The analysis of the project's proposed internal roadway system involved the following:

- An evaluation of roadway capacities and expected traffic volumes.
- Issues related to the proposed design features of the internal roadways.
- Issues related to the design and operations of gated entrances.

The highest average daily traffic volume on the internal roadway system would occur on the project's main access, Bickford Ranch Road, near Sierra College Boulevard. This roadway would be a four lane divided street for approximately 2,000 feet east of Sierra College Boulevard, where it would intersect with Lower Ranch Road at the Village Commercial Center. It would have adequate capacity to carry the 11,200 daily vehicles estimated to use it.

The remainder of the internal roadway system would consist of two-lane roadways with varying cross-sections. The projected traffic volumes on these two-lane roadways would not exceed their level of service "C" thresholds and thus would operate at acceptable levels.

Bickford Ranch Road would extend more than two miles east of its intersection with Lower Ranch Road. All of the development east of that intersection must use Bickford Ranch Road to exit the project site; thus Bickford Ranch Road would function similar to a cul-de-sac. The large number of homes that would be served by one exit and the length of this roadway would raise safety concerns related to potential emergencies (such as fires) if it were not for the two emergency accesses that would be provided under the proposed project. Clark Tunnel Road would provide emergency access to both SR 193 and to Penryn. These emergency access roads should provide an adequate level of safety for the project site. Due to safety and circulation concerns, Placer County staff have indicted their desire to provide an additional access road to Bickford Ranch Road.

East of Lower Ranch Road, Bickford Ranch Road would contain one lane in each direction. A portion of this two lane roadway would be separated by a median. The curb-to-curb width of each travel direction, which includes a bike lane, would be 20 feet. This width would allow vehicles, particularly emergency vehicles, to get around potential stalled vehicles. This cross-section should provide an adequate level of safety. Maintenance of the median areas (such as landscaping) would require crews to park vehicles adjacent to the median which would force vehicles traveling on this section of Bickford Ranch Road to use a portion of the bicycle lane. To minimize this impact it is desirable that turnouts/parking areas for maintenance crews be provided at key locations along the median.

Nineteen private streets will be gated at entryways to residential neighborhoods in the proposed project. Gated entryways could cause problems if they are not properly designed, including:

- Excessive queuing of vehicles at the gates that could cause backups onto public roadways.
- Inadequate areas for vehicles to turn around if they cannot enter a gate or have made a wrong turn at the gated entry.

The design of the entryways and the operations of the gates have not been specified. To conduct a general analysis of the proposed gated entryways, the following assumptions were made:

- None of the entryways would have a security guard to control the gate, and thus all of the entryways would require various mechanisms to residents, guests, and delivery/service vehicles to open the gate.
- The entryways would not be controlled by a "railroad crossing" type gate with a lifting "arm" that is used in many paid parking lots. They would have metal, fence-type gates that roll back or swing open.
- The entryways would likely have a keypad for entering codes and a phone for contacting residents.
- Residents could enter by either entering a code or using a "garage door opener" device.
- Guests or delivery vehicles could enter by either entering a code or using the phone to contact a resident. Residents would likely be able to open the gate for guest by pressing a button at their homes.
- Once the gate is opened, any vehicle waiting in a queue behind the first vehicle could enter at the same time without having to enter a code or pushing the garage door opener since the gate would have sensors that would not allow it to close on a vehicle. Residents waiting in a queue would typically follow a lead vehicle through the gate while guests and delivery vehicles may or may not follow the lead vehicle.

Based on these assumptions, a limited amount of "queuing distance" (the distance between the public road and the "clear area" of the gate swing) would be needed for residences. The arrival volume of residents during the p.m. peak commute hour would typically set this distance, except potentially at the age-restricted Heritage Ridge community where inbound traffic volumes may peak at different hours. A queuing analysis indicates that space for two to four vehicles (a queuing distance of 50 to 100 feet) would be required at the various gates in the proposed project. The range in distance reflects the number of homes served by each gate on the proposed Master Lotting Plan.

The more critical issue for queuing at the gated entryways, however, would be guests (particularly non-regular guest) and delivery vehicles. Some of these may take considerable time to place phone calls, figure out the operation of the gate or determine if they are at the right gate. For this reason, the entryways and gates should be wide enough for a resident vehicle to pull along the right side of a guest or delivery vehicle. The resident could then use a garage door opener to activate the gate and relieve any excessive queues.

The entryway should be designed with adequate areas for cars and small delivery vehicles to turn around if someone cannot enter a gate or has made a wrong turn at the gated entry.

7.3.10 Transit Impacts

IMPACT T-19:	Potential unmet transit needs generated by the proposed project
SIGNIFICANCE:	Potentially Significant
MITIGATION	
Proposed:	Mitigation Measures T-M (Provide park-and-ride lot and two bus stops); and T-N (Participate in fair share of the cost of limited transit services)
Recommended:	None
RESIDUAL SIGNIFICANCE:	Potentially Significant

Placer County has limited transit services in the project area. The proposed project site area is not currently served by either fixed route transit routes or by dial-a-ride transit services. A portion of the Village Commercial site would include a "park and ride" lot, and two bus stops are proposed within the proposed project. There are no plans by the Applicant or by Placer County Transit to provide transit services to the vicinity of the project site at this time. However, potential service to this area will be explored in the Fiscal Year 1999/2000 Short Range Transit Plan.

The residential development in Bickford Ranch, especially the age-restricted community within the proposed project, would generate transit demand. The City of Roseville was contacted to determine the transit demand from a comparable age-restricted community: the Sun City development. Sun City is not served by any fixed transit routes, only by dial-a-ride service. During fiscal year 1997/1998, the Sun City development generated a demand for about 2,200 transit trips using the City's dial-a-ride services. This represents an average weekly demand of about 42 transit trips. The Sun City development has been growing rapidly. During fiscal year 1997/1998, the Sun City development grew from about 1,800 dwelling units to about 2,400 dwelling units. Thus the average number of dwelling units during fiscal year 1997/1998 in Sun City would be 2,100, and the current average transit demand per dwelling unit would be about one transit trip per year per dwelling unit. The transit demand per dwelling unit at the Sun City development is expected to grow as the average age of the residents of this new age-restricted community increases.

Based on the Sun City experience, the proposed 947 dwelling units in Heritage Ridge, the age-restricted community on Bickford Ranch would generate a demand for about 1,000 transit trips per year (or about 20 transit trips per week) during the years immediately following buildout of the proposed project. This transit demand would likely increase as the average age of the residents in the Heritage Ridge community increases. Most of the destinations for this transit demand would likely be in the Roseville area due to its concentration of medical facilities and shopping. Other desired destinations could include Auburn and Rocklin.

If transit services are not provided to the proposed project, then an "unmet transit need" would likely be identified after buildout of the project, even with the provision of a park-and-ride lot and two bus stops. Such unmet transit needs are defined by Placer County Transportation Planning Agency (PCTPA) and are reviewed on a regular basis. To meet a potential unmet transit need at Bickford Ranch, Placer County would need to provide at least a limited amount of transit service. The most likely service would be a limited shuttle bus service to medical and shopping destinations in Roseville that would operate a few days per week. Such a service would be relatively costly due to the trip lengths involved. Placer County would receive some additional funding for transit services due to the proposed project through Transportation Development Act sources, since these funds are based on population. However, the additional funds would not be adequate to implement limited transit service to the remote project location, and therefore this impact would still remain potentially significant.

The Applicant proposes to participate in a fair share of the cost of limited transit services to the project location if "unmet transit needs" related to the proposed project are identified by PCTPA. These potential services would likely focus on meeting basic medical and shopping needs for elderly residents of the Heritage Ridge Community. The cost of this transit service and the proposed project's appropriate cost share cannot be defined at this time for the following reasons:

- The type, frequency and destinations for the desired transit services would be defined by PCTPA through a public involvement process as part of a future unmet transit need analysis.

- Transit services could cover only the proposed project, or could include other areas of Placer County in the vicinity of the proposed project.

Implementation of the mitigation measure to share in the cost of limited transit services would reduce this impact to a less than significant level. However, because no mechanism to implement this mitigation measure is identified at present, this impact remains potentially significant.

7.3.11 Bicycle Impacts

IMPACT T-20:	Increased demand for recreational and transportation related bicycle trips
SIGNIFICANCE:	Less Than Significant
MITIGATION	
Proposed:	Mitigation Measure T-O (Provide Class II bike lanes on Bickford Ranch Road and Lower Ranch Road)
Recommended:	None
RESIDUAL SIGNIFICANCE:	Less Than Significant

The proposed project with its active adult community (Heritage Ridge) would generate a substantial demand for safe and convenient pedestrian and bicycle facilities, especially for recreational experiences. The proposed project would include Class II bike lanes on Bickford Ranch Road and Lower Ranch Road.

The proposed Class II bike lanes should meet the demand for safe and convenient bicycle facilities by allowing connections between the project's residential areas, the project's commercial and community center sites and the regional bikeway system (via Sierra College Boulevard). The substantial length of the proposed Class II bike lanes should also provide an adequate recreational experience for project residents.

The proposed bikeway system in the proposed project appears to meet the intent of the General Plan policies. This impact would be less than significant.

7.3.12 Golf Cart Circulation

IMPACT T-21:	Safety concerns at two golf cart crossings on Bickford Ranch Road
SIGNIFICANCE:	Significant
MITIGATION	
Proposed:	Mitigation Measure T-P (Provide signing and striping on Bickford Ranch Road at the golf cart crossings); and T-Q (Work with Placer County to define an acceptable Golf Cart Crossing Plan)
Recommended:	None
RESIDUAL SIGNIFICANCE:	Less Than Significant

The proposed project includes two golf cart crossings of public streets. These crossings would be located at uncontrolled locations along Bickford Ranch Road. The speed limit on Bickford Ranch Road would be set by the County, based on speed studies, after the proposed project is constructed; but it would likely be at least 35 miles per hour. Golf carts have limited operating speeds and acceleration rates. Therefore, golf cart crossings on Bickford Ranch Road should include adequate safety measures, including signing, striping, lighting and other potential traffic control measures.

The Applicant proposes some signing and striping at the proposed golf cart crossings on Bickford Ranch Road. The Applicant's plan shows a median refuge area for golf carts so that they can cross one direction of travel on Bickford Ranch Road at a time. However, the crossing at the Village Commercial Center would be located at an intersection which would have left turn lanes, and thus, the median would not have the width shown on the Applicant's plan. The proposed design raises safety concerns due to the location of the crossings, the potential speed on Bickford Ranch Road and the lack of traffic control.

The California Vehicle Code (Section 21115) allows a crossing zone for golf carts on a street other than a state highway which has a posted speed of 45 miles per hour or less and which is immediately adjacent to a golf course. The vehicle code calls for a Golf Cart Crossing Plan to be prepared and approved by the responsible jurisdiction when golf carts cross public streets. The recommended mitigation measure would require the Applicant to work with Placer County to prepare a Golf Cart Crossing Plan, and get approval of this plan by Placer County. This plan should address safety concerns at the crossings on Bickford Ranch Road. With this mitigation measure, this impact would be reduced to less than significant.

7.3.13 General Plan Consistency

The Placer County General Plan policies addressing transportation and circulation are identified below, and a determination of the proposed project's consistency is made. The proposed project is consistent with Placer County's transportation and circulation policies, except for Policy 3.A.2.

Streets And Highways

3.A.2 Streets and roads shall be dedicated, widened, and constructed according to the roadway design and access standards generally defined in Section I of this *Policy Document* and, more specifically, in *community plans* and the County's *Highway Deficiencies Report*. Exceptions to these standards may be necessary but should be kept to a minimum and shall be permitted only upon determination by the Public Works Director that safe and adequate public access and circulation are preserved by such exceptions.

Inconsistent. See Impact T-22 below.

3.A.3 The County shall require that roadway rights-of way be wide enough to accommodate the travel lanes needed to carry long-range forecasted traffic volumes (beyond 2010), as well as any planned bikeways and required drainage, utilities, landscaping, and suitable separations. Minimum right-of-way criteria for each class of roadway in the county are specified in Part I of this *Policy Document* (see page 29).

Consistent.
The planned internal road rights-of-way are consistent with the standards in the Placer County General Plan. The project Applicant proposes the dedication of right-of-way along the east side of Sierra College Boulevard and SR 193 frontages to conform to County standards.

3.A.6 The County shall require all new development to provide off-street parking, either on-site or in consolidated lots or structures.

Consistent.
Off-street parking is proposed for all components of the proposed project in compliance with County requirements.

3.A.7 The County shall develop and manage its roadway system to maintain the following minimum levels of service (LOS).

a. LOS "C" on rural roadways, except within one-half mile of state highways where the standard shall be LOS "D."

b. LOS "C" on urban/suburban roadways except within one-half mile of state highways where the standard shall be LOS "D."

The County may allow exceptions to these level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable based on established criteria. In allowing any exception to the standards, the County shall consider the following factors:

- The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.
- The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.
- The right-of-way needs and the physical impacts on surrounding properties.
- The visual aesthetics of the required improvement and its impact on community identity and character.
- Environmental impacts including air quality and noise impacts.
- Construction and right-of-way acquisition costs.
- The impacts on general safety.

- The impacts of the required construction phasing and traffic maintenance.
- The impacts on quality of life as perceived by residents.
- Consideration of other environmental, social, or economic factors on which the County may base findings to allow an exceedance of the standards.

Exceptions to the standards will only be allowed after all feasible measures and options are explored, including alternative forms of transportation.

Consistent.
Roadways within and serving the proposed project are not expected to exceed level of service standards outlined in the Placer County General Plan with implementation of the recommended mitigation measures in Chapter 7 of this document.

3.A.9 The County shall work with neighboring jurisdictions to provide acceptable and compatible levels of service and joint funding on the roadways that may occur on the circulation network in the Cities and the unincorporated area.

Consistent.
The project Applicant will pay their pro-rata fair share contribution to regional transportation improvements.

3.A.10 The County shall strive to meet the level of service standards through a balanced transportation system that provides alternatives to the automobile.

Consistent.
Planned improvements within the proposed project that provide alternatives to the automobile include bicycle lanes, pedestrian paths and transit stops. Further recommended measures include partial funding of transit service.

3.A.12 The County shall require an analysis of the effects of traffic from all land development projects. Each such project shall construct or fund improvements necessary to mitigate the effects of traffic from the project. Such improvements may include a fair share of improvements that provide benefits to others.

Consistent.
A traffic analysis has been completed for the proposed project. This analysis outlines the improvements necessary to mitigate traffic impacts resulting from the buildout of the proposed project. The project Applicant will fund the proposed project's pro-rata fair share contribution of regional transportation improvements.

3.A.14 The County shall assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system. Exceptions may be made when new development generates significant public benefits (e.g., low income housing, needed health facilities) and when alternative sources of funding can be identified to offset foregone revenues.

Consistent.
The project proposes to pay Traffic Mitigation Fees to fund its fair share of regional transportation improvements.

Non-Motorized Transportation

3.D.5 The County shall continue to require developers to finance and install pedestrian walkways, equestrian trails, and multi-purpose paths in new development, as appropriate.

Consistent.
18.5 miles of pedestrian and equestrian trails or paths are planned connecting the open space and residential/public areas. 6.5 miles of these trails would be located along public roadways. In addition, bikeways will be on-road Class II trails along Bickford Ranch Road and Lower Ranch Road.

3.D.7 The County shall, where appropriate, require new development to provide sheltered public transit stops, with turnouts.

Consistent.
Two transit stops with sheltered benches are included within the proposed project.

IMPACT T-22:	Inconsistency with Placer County General Plan Policy 3.A.2 requiring that all streets and roads shall be dedicated, widened, and constructed according to the roadway design and access standards in the General Plan.
SIGNIFICANCE:	Significant
MITIGATION	
Proposed:	None
Significance After Proposed Mitigation:	Significant
Recommended:	Mitigation Measure T-R (Construct a third lane on Sierra College Boulevard opposite the project boundaries)
RESIDUAL SIGNIFICANCE:	Less Than Significant

The standards in the General Plan address requirements for the various roadway classifications on the Circulation Plan Diagram. The Bickford Ranch Specific Plan describes the planned roadway improvements for internal streets that are consistent with the General Plan. The standards in the General Plan indicate that Sierra College Boulevard is designated as Rural Arterial and should ultimately be developed as a 4-lane roadway. The proposed project is not consistent with Policy 3.A.2, as it does not include required frontage improvements along Sierra College Boulevard. The existing two lanes of Sierra College Boulevard are constructed on the east side of the ultimate centerline of the roadway. This fact does not preclude this project from construction of the equivalent frontage improvements to the west side of Sierra College Boulevard.

Mitigation Measure T-R requires that the project developer construct required frontage improvements on Sierra College Boulevard. With the implementation of this mitigation measure, the proposed project would not be inconsistent with Policy 3.A.2 and this impact would be less than significant.

IMPACT T-23:	Based on the standards of significance for traffic impacts, a significant impact occurs in the 2010 General Plan Plus Project and Buildout of Project Vicinity Plus Project scenarios, due to LOS "E" conditions on the westbound minor street approach to the intersection of Sierra College Boulevard and the unnamed road north of Lower Ranch Road, south of SR 193.

SIGNIFICANCE:	Significant
MITIGATION:	
Proposed:	None
Recommended:	Mitigation Measure T-S (Install traffic signal at the intersection of Sierra College Boulevard and the unnamed road north of Lower Ranch Road, south of SR 193)
RESIDUAL SIGNIFICANCE:	Less Than Significant

To mitigate these impacts, traffic signal warrants were investigated for these two scenarios. Based upon a peak hour warrant, a traffic signal is warranted in both scenarios. With a traffic signal installed at this location, the intersection would operate as follows:

- 2010 General Plan Plus Project
  LOS "A," 0.58 volume-to-capacity ratio

- Buildout of Project Vicinity Plus Project
  LOS "B," 0.64 volume-to-capacity ratio

The need for installing the traffic signal at this location would result from the cumulative impact of development in the study area, including the proposed project. The installation of this traffic signal by the Applicant would reduce this impact to a less than significant level.

7.4 MITIGATION MEASURES

Mitigation Measure T-A: Prepare and implement construction traffic management plans for on-site construction activities for Bickford Ranch Road and Sierra College Boulevard, and coordinate with appropriate agencies in the preparation and implementation of construction traffic management plans for required off-site improvements

Mitigation Measure T-A applies to Impacts T-1 and A-1.

Prior to the beginning of each portion of the project construction, including Bickford Ranch Road, Sierra College Boulevard and off-site water and sewer lines, a construction traffic management plan should be prepared by the Applicant to the satisfaction of the Placer County Public Works Department. An exception would be individual residence construction in the Meadows and Ridges areas. These plans should involve an analysis of traffic volumes on roadways where one-way traffic control would be required to determine if the hours of such control should be limited. Traffic management plans should consider providing flag persons as necessary to facilitate traffic flow through construction areas, and arranging construction schedules to begin and end during off-peak hours.

Mitigation Measure T-B: Implement a community relations program during on-site construction, and coordinate with appropriate agencies in the implementation of a community relations program during construction of required on-site and off-site improvements

Mitigation Measure T-B applies to Impacts T-1, N-1, and N-2.

Residents near the proposed project site, near areas of off-site improvements, and in proposed project residences which would be occupied during Phases 2 and 3 of proposed project construction should be notified of construction schedules in advance through postings and mailings. By notifying potentially affected community members in advance of construction activities and providing a mechanism for complaints, affected residents could avoid the construction areas during periods of intense activity.

Community residents could also develop a more tolerant attitude toward construction activities if they are informed of them in advance, and are apprised of the length of construction activities in their area.

This mitigation measure would also minimize the disruption and annoyance caused by construction noise, although it would not reduce noise levels generated by construction activities.

Mitigation Measure T-C: Pay pro-rata fair share of reconstruction of the I-80/Sierra College Boulevard interchange

Mitigation Measure T-C applies to Impact T-2.

The unacceptable levels of service at the intersections of Sierra College Boulevard with the eastbound and westbound ramps to I-80 would require a widening of Sierra College Boulevard to four lanes. Both of these intersections are immediately adjacent to the Sierra College Boulevard overpass to I-80. This overpass is narrow, has a short vertical curve, and does not meet current standards for vertical clearance between the bottom of the structure and I-80. For these reasons, the improvement that would be needed to mitigate unacceptable levels of service at the Sierra College Boulevard intersections with the I-80 eastbound and westbound ramps would require a reconstruction of the Sierra College Boulevard interchanges at I-80, including the overpass structure.

The Applicant proposed to pay a pro-rata fair share of the cost to reconstruct the I-80/Sierra College Boulevard interchange. The City of Rocklin has been working with Caltrans on a Project Study Report to identify the appropriate design of this interchange. The new interchange should be designed to accommodate cumulative traffic conditions on Sierra College Boulevard (i.e., with buildout of the proposed project, the Twelve Bridges Specific Plan, and the Clover Valley Lakes development). This mitigation measure was assumed to be implemented under the 2010 General Plan and Buildout of Project Vicinity conditions.

Mitigation Measure T-D: Pay pro-rata fair share to widen Sierra College Boulevard from two to four lanes from Taylor Road to I-80

Mitigation Measure T-D applies to Impact T-4.

Under Existing Plus Project traffic conditions, this section of roadway should be widened to four lanes.

Mitigation Measure T-E: Pay Placer County traffic mitigation fees

Mitigation Measure T-E applies to Impacts T-5 and T-12.

The analysis of 2010 General Plan and Buildout of Project Vicinity Plus Project conditions did not include the planned SR 65 Bypass around central Lincoln. This bypass is planned to be constructed by 2010, but does not yet have funding. The Placer County Traffic Mitigation Fee Program includes a share of the funding for route adoption and right-of-way for the Lincoln Bypass. With construction of this bypass, the intersection of SR 65 and SR 193 is anticipated to operate at acceptable levels of service under 2010 General Plan Buildout of Project Vicinity Plus Project conditions.

Mitigation Measure T-F: Pay pro-rata fair share of adding a second westbound left-turn lane on Taylor Road at the Sierra College Boulevard intersection

Mitigation Measure T-F applies to Impacts T-8 and T-18.

Under the No Project Alternative for the 2010 General Plan scenario, it was assumed that this intersection would have two through lanes and a separate left-turn lane on all four approaches. The unacceptable level of service with the proposed project could be mitigated by the addition of a second westbound left-turn lane on Taylor Road.

Mitigation Measure T-G: Pay pro-rata fair share of widening Sierra College Boulevard from four to six lanes from Taylor Road to Granite Drive

Mitigation Measure T-G applies to Impacts T-9 and T-18.

Under 2010 General Plan and Buildout of Project Vicinity conditions, this section of Sierra College Boulevard would require six lanes to provide an acceptable level of service. (Under Existing Plus Project traffic conditions, this section of roadway should be widened to four lanes; see Mitigation Measure T-A.)

Mitigation Measure T-H: Pay pro-rata fair share of the cost to add shoulders and improve vertical and horizontal curves along English Colony Way

Mitigation Measure T-H applies to Impact T-10.

Traffic volumes would exceed the recommended threshold where safety improvements should be considered on a roadway like English Colony Way. The recommended mitigation calls for the addition of shoulders plus improvements to sharp vertical and horizontal curves on some sections of English Colony Way between Sierra College Boulevard and Clark Tunnel Road.

Mitigation Measure T-I: Participate in any development-based funding of solutions to I-80 congestion if adopted by Placer County

Mitigation Measure T-I applies to Impact T-11.

Placer County policy does not require the County or local development to finance the upgrading of I-80 to provide additional capacity for through traffic. However, if the County adopts a development-based funding mechanism for solutions to the I-80 corridor, the proposed project will participate in that funding.

Mitigation Measure T-J: Pay pro-rata fair share of adding a second northbound left-turn lane on Sierra College Boulevard at Twelve Bridges Drive intersection

Mitigation Measure T-J applies to Impacts T-14 and T-18.

A second northbound left-turn lane on Sierra College Boulevard at the intersection with Twelve Bridges Drive is the recommended mitigation measure due to the heavy northbound left-turn volume during the p.m. peak period.

Mitigation Measure T-K: Pay pro-rata fair share of adding a westbound right-turn lane on King Road at Sierra College Boulevard intersection

Mitigation Measure T-K applies to Impacts T-16 and T-18.

The most cost-effective mitigation measure is the addition of a westbound right turn lane on King Road at the intersection with Sierra College Boulevard.

Mitigation Measure T-L: Pay pro-rata fair share of adding right-turn lanes in both directions on Taylor Road at the English Colony Way intersection

Mitigation Measure T-L applies to Impact T-17.

This intersection was assumed to be signalized under both 2010 General Plan and Buildout of Project Vicinity conditions based on a planning level signal warrant analysis. This mitigation measure would involve the addition of right turn lanes on both of the Taylor Road approaches to this intersection.

Mitigation Measure T-M: Provide a park-and-ride lot and two bus stops

Mitigation Measure T-M applies to Impacts T-19, A-3 and A-4.

The Applicant proposes to provide a park-and-ride lot at the Village Commercial Center, and two bus stops within the project area. These project features would contribute to reducing the unmet transit needs generated by the proposed project, but would not reduce them to a less than significant level.

Mitigation Measure T-N: Participate in fair share of the cost of limited transit services

Mitigation Measure T-N applies to Impacts T-19, A-3 and A-4.

If an unmet transit need is identified by PCTPA, the proposed project should share the cost of providing limited transit services. These potential services would likely focus on meeting basic medical and shopping needs for elderly residents of the Heritage Ridge Community.

Mitigation Measure T-O: Provide Class II bike lanes on Bickford Ranch Road and Lower Ranch Road

Mitigation Measure T-O applies to Impacts T-20, A-3 and A-4.

The Applicant proposes to construct Class II bike lanes on Bickford Ranch Road and Lower Ranch Road. These roadways would connect with existing and planned adjacent roadways outside the project area, and contribute to meeting the demand for recreational and transportation related bicycle trips generated by proposed project residents and others.

Mitigation Measure T-P: Provide signing and striping on Bickford Ranch Road at the golf cart crossings

Mitigation Measure T-P applies to Impact T-21.

The Applicant has proposed some signing and striping at two crossings of Bickford Ranch Road, a public street. The proposed design raises safety issues due to the location of the crossings, the potential speed on Bickford Ranch Road and the lack of traffic control. The Applicant shall work with Placer County to define an acceptable plan for these crossings that address safety concerns.

Mitigation Measure T-Q: Work with Placer County to design an acceptable Golf Cart Crossing Plan

Mitigation Measure T-Q applies to Impact T-21.

Similar to Mitigation Measure T-P, above, the Applicant shall work with Placer County to define a plan for golf cart crossings at Bickford Ranch Road. This plan must be approved by the Placer County Board of Supervisors.

Mitigation Measure T-R: Construct a third lane on Sierra College Boulevard opposite the project boundaries

Mitigation Measure T-R applies to Impact T-22.

In order to comply with the provisions of General Plan Policy 3.A.2, the Applicant will construct required frontage improvements on Sierra College Boulevard. These improvements shall consist of a third through lane on the west side of the roadway for the length of the project boundary.

Mitigation Measure T-S: Install traffic signal at the intersection of Sierra College Boulevard and the unnamed road north of Lower Ranch Road, south of SR 193

Mitigation Measure T-S applies to Impact T-23.